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This is a collection of papers from a 2001 symposium at Harvard University entitled "State Merit Aid Programs: College Access and Equity." After a Foreword by Gary Orfield, the seven papers are (1) "State Merit Scholarship Programs: An Introduction" (Donald E. Heller); (2) "Merit Scholarships and College Access: Evidence from Florida and Michigan" (Donald E. Heller and Christopher J. Rasmussen); (3) "Incentive Effects of New Mexico's Merit-Based Scholarship Program: Who Responds and How?" (Melissa Binder, Philip T. Ganderton, and Kristin Hutchens); (4) "Race and the Effects of Georgia's HOPE Scholarship" (Christopher Cornwell and David B. Mustard); (5) "Race, Income, and the Impact of Merit Aid" (Susan Dynarski); (6) "Do State Financial Aid Programs Cause Colleges To Raise Prices? The Case of the Georgia HOPE Scholarship" (Bridget Terry Long); and (7) "Merit Scholarships and the Outlook for Equal Opportunities in Higher Education" (Patricia Marin). (Individual papers contain references.) (SM)

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ED 468 845

WHO SHOULD WE HELP? THE NEGATIVE SOCIAL CONSEQUENCES OF MERIT SCHOLARSHIPS

EDITED BY DONALD E. HELLER AND PATRICIA MARIN

FOREWORD BY GARY ORFIELD

AUGUST 23, 2002

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In December 2001, The Civil Rights Project at Harvard University sponsored a symposium titled "State Merit Aid Programs: College Access and Equity," at the Harvard Graduate School of Education. Generously supported by The Ford Foundation, this symposium was the first of its kind to address the recent growth of state merit aid programs and brought together a group of researchers from around the country who independently had been examining the impact of these programs on college students and institutions. This report, which is an outgrowth of that symposium, could not have been produced without the leadership of Gary Orfield and Christopher Edley, Jr., and the dedicated efforts of the authors who contributed each of these chapters. In addition, a number of staff members at The Civil Rights Project provided unending support in completing this project. In particular, we thank Marilyn Byrne, Stella Flores, Erica Frankenberg, Alison Harris, Laurent Heller, Cathy Horn, Michal Kurlaender, Chungmei Lee, Sofia Jarrin-Thomas, and John Yun. Robert Rothman, a Washington-based education writer, provided editorial review for the production of the report.

Donald E. Heller
Patricia Marin

Cambridge, MA
August, 2002

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FOREWORD BY GARY ORFIELD

We are in the midst of a destructive set of federal, state, and local changes in higher education policy that limit the ability of minority and low-income families to go to college, damage their future and the future of their communities, and sacrifice too much of the human potential of a society where soon half of all school age children will be non-white. In our society, individuals and families who have not benefited from attending postsecondary education are far less successful financially, earning less in real terms than they did a generation ago. More than ever before, social and occupational mobility is related to higher education. Therefore, our goal must be to develop policies and programs that increase access to those students who have been overlooked in the past.

During the 1960s and 1970s there were various attempts to do just that. We kept tuition prices down, greatly raised financial aid for poor families, created the work study program, and developed affirmative action plans to increase minority enrollment. Gaps narrowed and minority college going increased.

Since that era, however, we have witnessed a significant reversal of access to higher education for minority and low-income students. Now we have high and rapidly rising tuitions, affirmative action has been banned in some of our largest states, institutions have increased their entrance requirements, and gaps in college participation are growing by both race and income. National studies have disclosed huge gaps of unmet financial need for low-income students.

Imagine someone reacting to higher education's current situation by saying that what we needed were large new programs to subsidize white and middle- to upper-income students to attend college, and that it was not necessary to raise need-based aid even enough to cover new tuition increases. We would give some minority students entering awards because of their relatively high grade point averages from inferior segregated schools. However, we will take their aid away when they cannot get a "B" average in a vastly more competitive college setting and blame them for not being up to the task. A huge amount of money would go into this new program, far more than was spent for the need-based scholarships in some states. We would get the money from an extremely regressive tax—a state lottery that drew money disproportionately from poor and minority players. In other words, poor blacks and Latinos would end up paying a substantial part of the cost of educating more affluent white students, who would have gone to college even if they had not had the additional financial incentive. And to add insult to injury, colleges would cut their own financial aid funds, or shift these resources to give more money to high scoring students. In cases where the financial aid made more students eager to go to a particular institution in the state, rather than an out-of-state school where they would have to pay tuition, the in-state institution could raise its selectivity ratings by excluding students with lower scores, students who would usually be minority and from less affluent families.

A policy such as this would make no educational sense. Yet this type of policy is now in place in more than a dozen states. Of course, no one intended to skew financial aid in these ways, but the broad-based merit aid scholarship programs states have adopted have produced these results. Although these programs stem from very popular, good ideas—rewarding the "best" students and keeping them in their state—their ultimate effects are of huge concern to those interested in the civil rights of underrepresented students. Genuine access to higher education for poor and minority students is as basic to civil rights today as access to high school was a half century ago.

There are a series of basic reasons why these programs are not only unable to address serious education issues but are also making the inequities in college participation worse. First, the primary purpose of financial aid is to make certain that we do not decide access to college on the basis of family income and wealth. In a society where all the growth of income goes to those with education beyond high school and equal access to education is the only tool we have for making things fair, we have to make college possible for all who can benefit. Otherwise, we may lock in inequality from generation to generation and perpetuate the kinds of deeply rooted class structures that have troubled older societies. In our society, of course, these structures would tend to perpetuate racial inequality as well.

A second reason for need-based rather than strictly merit-based financial aid is that the students with the highest scores and grades are usually from better-off families and are most likely to go to college without any aid. Furthermore, the "neutral" measures of merit are actually very strongly related to unequal family background. For example, the high SAT scores received by a student with college-educated parents, with lots of books and educational materials at home, who has gone to very good schools, who has had the best teachers, peer groups of similarly educated students, and enriching summer experiences, is not simply a measure of aptitude or native ability but is, to a considerable extent, a measure of and the result of privilege. In fact, of all measures, race and social class show the strongest correlation with SAT scores and high school grade point average, with students from poorer and minority families scoring lower on both measures. This test (which is used in some states to award merit scholarships) does measure significant differences, of course, but it has been repeatedly shown to be at best mildly predictive of first-year grades in college and has been shown to have little validity in predicting longer-term academic success.

Yet another reason why the role of family resources and financial aid in promoting college access needs to be looked at very closely is that tuition costs have risen more rapidly than family income virtually every year for more than two decades and, during this period, the incomes of families have become far more unequal. This means that more and more families simply cannot afford to send their children to college without aid. The recent report of the federal Advisory Committee on Student Financial Assistance, *Empty Promises: The Myth of College Access in America,* concludes that there is a gap of several thousand dollars between the aid that is available to needy students and the cost of college. Millions of families, including most of the nation's minority families, have virtually no savings or net worth (such as equity in a home) to draw against to pay for college. Too many students are forced into impossible situations, such as working full-time, raising families, and trying to go to college part-time, which greatly lessens their chances to do well or ever graduate. Since many students have financial motivations when choosing a college or deciding to drop out, affordability issues become very critical.

College affordability becomes particularly serious when tuition soars. Since the 1970s, whenever there is a recession the states have cut college funding and the public institutions have responded with sharp increases in tuition to avoid sudden cutbacks in services and programs. Because state budgets have to be balanced every year and there has been very strong political pressure against even temporary tax increases, there has just been an implicit decision to tax the students by shifting to them and their families more of the burden for paying for college. For the same reasons, there has often been a failure to raise state need-based aid significantly to even partially make up for the increase in tuition. The round of double-digit tuition increases announced in many public colleges and universities for the fall of 2002 shows this pattern in many regions.

From a civil rights standpoint, shifting from need-based to "merit" aid means shifting funds from blacks, Latinos, and Native Americans to whites and Asians, from city and rural residents to suburban residents, from children from one-parent families to those who have two parents. These are clearly regressive changes in social terms. We are in a time in which all families worry about college costs and face costs that are higher relative to income than the parents experienced as students. Most Americans are not saving nearly enough to pay for their children's college costs. Students worry about the debts they will face when they graduate. Even though the real costs are still quite manageable for middle-class families and the benefits of college education vastly outweigh the costs, everyone is feeling squeezed. Every parent who has a child who has worked hard in school and gets pretty good grades believes, of course, that his or her child has "merit." In this situation it is incredibly popular for a politician to promise to help the worried middle-class families, the very families who vote at the highest level, by recognizing and rewarding the merit of their children. It is hard to imagine a more irresistibly popular policy, particularly if there does not have to be a new tax to pay for it. But as documented in this report, these programs often assist not just middle-class families, but very wealthy families as well. In this situation, those who get hurt are disorganized and politically ineffective and do not understand the complexities of the system, so the political costs are minimized.

In the current state of affairs, with large social costs and deepening racial inequalities, it is extremely important that political leaders, college officials and college faculties, student organizations, and the press keep their eyes firmly on the basic question—are we spending a rapidly growing share of our inadequate student aid budgets to pay for programs that actually make college opportunity even more unequal? We see that students from families in the bottom fourth of the income distribution have less than one-eighth the chance to get a B.A. than do those in the top quarter. In addition, the more affluent students are thirty times more likely to get an M.A. than are their poorer counterparts. Racial gaps in both college participation and completion are huge. These differences threaten the future of a society that is becoming more multiracial, more unequal in income, and more dependent on education. In this situation taking scarce funds to aid students who would go to college anyway is indefensible and destructive. State leaders need to directly confront these issues, as do federal legislators considering Pell Grants, loans, and tax subsidies for affluent students and families that shape opportunities for millions of students.

We hope that this report will bring the reality of merit aid programs to the attention of state policymakers and others involved in financial aid decisions. It is clear that many of the goals of these programs, especially those that involve increasing access to college, are not being met. Instead these programs are increasing already existing inequities in higher education. As brought to light by these studies, merit aid programs are, at best, not meeting their promises. At their worst, they are locking an increasing number of students out of college.

Gary Orfield
Professor, Harvard Graduate School of Education
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CHAPTER 1

STATE MERIT SCHOLARSHIP PROGRAMS: AN INTRODUCTION

* * *

Donald E. Heller

The author acknowledges the research assistance of Roger Geertz Gonzalez for work on portions of this chapter.

Publicly-funded scholarships in the United States, since they began in significant levels in the 1960s, have been awarded primarily based on the financial need of the student and his or her family, with the goal of increasing access to college and eliminating disparities in college participation among students from different socioeconomic groups. Beginning with passage of the Higher Education Act of 1965, and in particular, establishment of Basic Educational Opportunity Grants (now called Pell Grants) in the 1972 Amendments, federally-funded student aid has been used in order to help achieve equality of postsecondary educational opportunity (Mumper, 1996). The State Student Incentive Grant program, also part of the Title IV student aid programs, encouraged the development of state-funded scholarships. Many states responded by creating programs that used financial need as the primary criterion for awarding grants. The basic goal was to permit families to have access and choice for college in spite of their income levels.

Financial aid is particularly critical for meeting the college access needs of minority students in the United States. Recent data from the United States Bureau of the Census (2002) indicate that in 2000, the median income of white families with at least one child ($60,226) was almost twice that of black ($30,841) and Hispanic ($33,288) families. Because of these differences in family resources, minority students depend much more upon financial aid to be able to afford a college education.

State-funded grants have become an increasingly important source of financial aid in the last two decades. From the 1980-81 academic year to 2000-01, current dollar spending on federal Pell and Supplemental Educational Opportunity Grants increased 214 percent (College Board, 2001), while spending on state-sponsored grants to undergraduates increased 447 percent (National Association of State Scholarship and Grant Programs, various years).

During this period, however, the use of financial need as the main basis for awarding scholarships by the states has eroded. Academic merit—measured in many different forms—has replaced financial need as the primary determinant for the awarding of scholarships in most of the new state grant programs developed over the last decade.[1] Between 1991 and 2001, spending by the states on need-based scholarships for undergraduates increased 7.7 percent annually, while spending on merit programs increased at an 18.3 percent annual rate (National Association of State Scholarship and Grant Programs, various years). The proportion of state grants awarded based on merit, rather than need, has risen from 11 percent to 24 percent during this period.

The first and best-known broad-based state merit scholarship program is the Helping Outstanding Pupils Educationally (HOPE) program in Georgia. Begun in 1993, it is now the largest state-run merit scholarship program in the country, awarding approximately $300 million in 2000-01. Funded by the Georgia Lottery, the program awards scholarships to students who attain a B average in high school core curriculum subjects (Mumper, 1999). Students have to maintain a B average while enrolled in college in order to retain the scholarship. The scholarship provides for full tuition (plus a $150 per semester book allowance) at any public institution in the state, or $3,000 for students attending a private institution in the state. While the program originally included a family income cap of $66,000, by its third year the cap had been removed.

The popularity of Georgia HOPE helped spur the development of similar programs in other states. As of 2002, 12 states had implemented broad-based merit scholarship programs that do not use financial need in determining eligibility.[2] These states awarded a combined $863 million in merit awards during the 2000-01 academic year, almost three times the $308 million provided in need-based aid by those states (National Association of State Student Grant & Aid Programs, 2002). Table 1-1 summarizes these programs.

Table 1-1: State Merit Scholarship Programs

Program (year implemented)	Funding Source	Award Criteria	Award Amount
Alaska Scholars Award (1999)	Land leases and sales	Class rank	$2,750 per year at the University of Alaska
Florida Bright Futures Scholarship (1997)[*]	Lottery	GPA and SAT/ACT	Up to full tuition and fees at a FL public institution plus $300, or a comparable amount at a FL private institution
Georgia Helping Outstanding Pupils Educationally (HOPE) Scholarship (1993)[**]	Lottery	GPA	Full tuition and fees at a GA public institution, or up to $3,000 at a GA private institution
Kentucky Educational Excellence Scholarship (1999)	Lottery	GPA	Up to $1,000 per year at a KY public or private institution
Louisiana Tuition Opportunity Program for Students (TOPS) (1998)	General revenues	GPA and ACT	Full tuition and fees at a LA public institution, or a comparable amount at a LA private institution
Michigan Merit Award Scholarship (2000)[*]	Tobacco settlement	State curricular framework test	One-time award up to $2,500 at a MI public or private institution; $1,000 out of state
Mississippi Eminent Scholars Program (1996)	General revenues	GPA and SAT/ACT	$2,500 at a MS public or private institution
Missouri Higher Education Academic Scholarship Program ("Bright Flight") (1997)	General revenues	SAT/ACT	$2,000 at a MO public or private institution
Nevada Millennium Scholarship (2000)	Tobacco settlement	GPA	$80 per credit hour at a NV 4-year public or private institution or $40/$60 per credit hour (lower division/upper division) at a NV community college
New Mexico Lottery Success Scholarship (1997)[***]	Lottery	GPA	Full tuition and fees at a NM public institution
South Carolina Legislative for Future Excellence (LIFE) Scholarship (1998)	General revenues	GPA, SAT/ACT, and class rank	Full tuition plus $300 at a public SC institution; comparable amount at a SC private institution
West Virginia Providing Real Opportunities for Maximizing In-State Student Excellence (PROMISE) Scholarship (2002)	Lottery and taxes on amusement devices	GPA and SAT/ACT	Full tuition at a WV public institution or comparable amount at a WV private institution

[*] See Chapter 2 for more about this program. [**] See Chapters 4, 5, and 6 for more about this program. [***] See Chapter 3 for more about this program.

Sources: Krueger (2001), Selingo (2001), and state program websites.

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As the table indicates, many of the programs share some common characteristics, but there are important differences. Florida's Bright Futures Scholarship program, like Georgia's, uses the state lottery as a funding source and awards full scholarships to students attending state-sponsored institutions of higher education (and a comparable amount to those enrolled in private institutions). But the criteria for the scholarships in Florida include SAT scores as well as grade-point averages, while Georgia relies only on grade-point averages.

Michigan's Merit Award Scholarship, meanwhile, awards one-time grants of $2,500 to students attending state-sponsored institutions who earn high scores on the state's curriculum-based assessment. The program is funded by the state's share of the national tobacco settlement.

New Mexico's Success Scholarship is similar to Georgia's, in that it awards full scholarships to students who attend state-sponsored colleges and universities and is funded by the state lottery. But the criterion for awarding Success Scholarships is first-year college grade-point averages.

States have articulated three primary motivations for the creation of these programs:

- to promote college access and attainment. The Michigan law that established that state's award program, for example, stated as a goal that the program would "increase access to postsecondary education" (Michigan Merit Award Scholarship Act, 1999).
- to encourage and/or reward students who work hard academically. The Florida statute creating its program states that it was created "to reward any Florida high school graduate who merits recognition of high academic achievement" (Florida Bright Futures Scholarship Program, 1997). The web site for West Virginia's PROMISE scholarship, meanwhile, cites other states' experience as evidence that the program has a motivational effect: "Several other states have found that the quickest and most effective way to motivate students to study harder and to achieve in school is to offer good students the opportunity to attend college tuition free" (Promise Scholarship Program, 2002).
- to stanch the "brain drain" of the best and brightest students and encourage them to attend college in the state. As the University of Alaska web site states, "The UA Scholars Program is designed to help reduce the number of Alaska's high school graduates who leave the state for education and jobs elsewhere" (University of Alaska, 2002).

Promotional material for South Carolina's LIFE Scholarship, meanwhile, claims all three goals: "The purpose of the LIFE Scholarship program is to increase access to higher education; improve employability of South Carolina's students; provide incentives for students to be better prepared for college; and to encourage students to graduate from college on time" (South Carolina Commission on Higher Education, 2002).

Since most of these programs have been implemented in recent years, there has been little research conducted to determine whether these merit programs actually do meet the goals that have been established for them. Research on more traditional need-based grant programs has demonstrated their effectiveness in promoting college access, particularly for lower-income students.[3] But little is yet known regarding whether merit scholarships promote college access and educational attainment in a state.

This question is crucial at a time when college access has become a critical public policy issue in the country. In particular, policy makers are growing concerned about the persistent gaps in postsecondary participation between rich and poor, and between racial majority and minority students (Advisory Committee on Student Financial Assistance, 2001). These gaps have persisted despite the implementation of need-based and merit-based aid;.for example, the gap in college participation rates between students in the lowest income quartile and those in the highest income quartile is almost as large today as it was 30 years ago, before implementation of Pell Grants and the state grant programs described in this chapter.

While many issues influence whether students attend college—including academic preparation, family and peer influences, and sociocultural factors—financial resources play an important part in contributing to the participation rate gap. According to *Access Denied* (2001), the report of the Advisory Committee on Student Financial Assistance, lower-income students face a staggering amount of unmet need—the difference between the cost of attending college and the amount of funds available from a student and her family's resources, including all forms and sources of financial aid—compared with their more affluent peers. In 1996, the report notes, lower-income students attending four-year public institutions faced an average unmet need of $3,800 per year, compared to $400 for higher-income students. Thus, the typical lower-income student would face a total unmet need in excess of $15,000 if they were able to attain a baccalaureate degree in just four years, a daunting task today for even the most well-prepared and well-financed student. At community colleges, unmet need averaged $3,200 per year for lower-income students, compared to $100 for wealthier students. If state scholarships are unable to narrow these gaps, or at least not exacerbate them, the challenge of increasing access to higher education for low-income students will be severe.

Understanding the impact of merit scholarship programs is particularly important in light of the challenges facing higher education in the near future. Research conducted by Anthony P. Carnevale and Richard Fry (in press) shows that higher education is likely to face an increase in enrollments of 1.6 million undergraduates in the next dozen years. In addition, the income and racial profile of this influx of students indicates that the need for grants and scholarships to help pay for college will grow faster than the growth in enrollment, putting even more demands on financial aid resources.

At the same time the nation is facing these demographic trends, state capacity for funding higher education—along with the willingness to do so—is being diminished. A report produced by the National Center for Public Policy and Higher Education outlined the constrained revenue growth faced by the states, combined with the increased need for funding areas other than higher education (Hovey, 1999). These fiscal constraints will only make it more difficult for states to meet the financial needs of the coming cohorts of students.

In this report, researchers examine four of the country's merit scholarship programs—including three of the nation's four largest programs—to assess the impact of these programs on their states. The research presented here focuses primarily on the question of whether these programs promote college access and attainment in each state, and how the programs serve the needs of students from different income and racial groups. The report opens with a study I conducted with Christopher J. Rasmussen of the University of Michigan that examines the merit scholarship programs in the states of Michigan and Florida. Following this is a study of the New Mexico lottery scholarship program, conducted by Melissa Binder, Philip T. Ganderton, and Kristin Hutchens of the University of New Mexico.

The next three chapters look at the nation's oldest and largest broad-based state merit scholarship program, the Georgia HOPE program. Christopher Cornwell and David Mustard of the University of Georgia use college enrollment statistics to examine how HOPE differentially benefits white and black students in the state, and data from the Georgia Lottery to analyze who ultimately pays for the HOPE program. Susan Dynarski of Harvard University uses data from the United States Census Bureau to examine the impact of HOPE on students from different groups, including white and black students. Bridget Terry Long, also of Harvard University, switches the focus by looking at the impact of Georgia HOPE on colleges and universities in that state. The report concludes with a summary of the report and policy recommendations by Patricia Marin of The Civil Rights Project, Harvard University.

The findings of each chapter of this report are very consistent. Using different data as well as varying research methodologies, the authors find that state merit scholarships are being awarded disproportionately to populations of students who historically, and today, have the highest college participation rates. This includes students from middle- and upper-income families, as well as white students.[4] The authors conclude that rather than helping to move each state closer to the goal of equality of educational opportunity, these merit scholarship programs are likely to exacerbate existing gaps in college participation, causing poor and minority students to fall further behind their wealthier and white peers.

Because most state merit aid programs are still so new, and the criteria used for awarding the scholarships are so diverse, further research can help to determine whether the programs can be structured in a manner that better meets the needs of students who are underrepresented in American higher education. The evidence in this report, however, indicates that the four programs analyzed here do little to provide financial assistance to the students who need it most.

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NOTES

[1] Many states have small, non-need aid programs targeted at specific populations (such as military veterans, dependents of state employees, or widows and orphans of police or fire personnel killed in the line of duty). The programs described in this report include those programs that are generally available to any resident of the state who meets the specified merit criteria. Three additional states (California, Arkansas, and Washington) have broad-based merit programs that do utilize a family income cap.

[2] Ohio has a program that awards $2,100 scholarships per year based on high school GPA and ACT score, but the program is restricted to a maximum of only 1,000 awards statewide. Thus, it is not considered a broad-based program as described in this chapter.

[3] See Heller (1997), Jackson and Weathersby (1975), and Leslie and Brinkman (1987) for reviews of the literature on tuition prices, financial aid, and college access.

[4] Because of the limitations of data availability, each chapter focuses only on the impact of these programs on certain racial groups in the state.

CHAPTER 2

MERIT SCHOLARSHIPS AND COLLEGE ACCESS: EVIDENCE FROM FLORIDA AND MICHIGAN

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Douglas T. Shapiro for work on earlier portions of this research.

INTRODUCTION

The last decade has seen a large growth in the use of merit scholarships by a number of states. Following the creation of the Georgia HOPE program in 1993, other states followed suit in developing broad-based merit scholarship programs. Two of the largest are Florida's and Michigan's, programs that have received little analytic scrutiny to date because of their recent implementation. This study attempts to fill this gap by using data from the Michigan and Florida programs to examine how students' socioeconomic characteristics are related to eligibility and receipt of merit-based awards in these two states, and how different criteria used for awarding these scholarships affect distributional equity. Specifically, this paper attempts to answer three primary questions:

- How does awarding of the Michigan Merit and Florida Bright Futures scholarships differ for individuals with varying racial and socioeconomic characteristics?
- What relationship exists between the different criteria used to determine eligibility for the scholarships in the two states and the racial and socioeconomic distribution of awards?
- What relationship exists between the distribution of awards and the college attendance patterns of students from individual high schools in the two states?

The existing research on financial aid (described in more detail later in this chapter) has found it to be effective in promoting college access for lower income students. Need-based aid ends up being well targeted at African American and Hispanic students because of the strong relationship between race and income in this country. The analysis in this chapter will provide a comparison of whether the merit scholarship programs in Michigan and Florida are likely to reach a population (and have an impact on college access) similar to that of need-based programs.

THE FLORIDA AND MICHIGAN PROGRAMS

The Florida Bright Futures Scholarship program was created by the state legislature in 1997. The Florida statute creating the program states that it was created "to reward any Florida high school graduate who merits recognition of high academic achievement" (Florida Bright Futures Scholarship Program, 1997, p. 1). Like Georgia, Florida had existing merit scholarship programs before the development of Bright Futures, and in fact, disbursed the largest amount of merit aid of any of the states before the development of HOPE in Georgia. Bright Futures consolidated Florida's existing merit programs into a single program, and lowered the academic standard that needed to be met to win an award.

As with HOPE, Bright Futures is funded from state lottery revenues (see Chapter 4 for an example of the issues related to funding for state lotteries), has no income eligibility cap, and awards scholarships for up to four years of undergraduate education. Since its creation, it has become the nation's second largest state-run merit program. The program has three types of awards, two for use at one of the state's degree-granting institutions (public and private), and one for students attending vocational/technical postsecondary education. A summary of the awards and eligibility requirements is shown in Table 2-1.

Table 2-1: Florida Bright Futures Scholarship Award Amounts and Eligibility Criteria

	Academic Scholars	Merit Scholars	Gold Seal Vocational
Award amount (public institutions)	100% of tuition and fees plus $600	75% of tuition and fees	75% of tuition and fees
Award amount (private institutions)	100% of tuition at comparable public institution	75% of tuition at comparable public institution	75% of tuition at comparable public institution
High school GPA	3.5 for college curriculum (15 courses)	3.0 for college curriculum (15 courses)	3.0 in college courses and 3.5 in vocational courses
Minimum test score	1270 SAT/28 ACT	970 SAT/20 ACT	Varies, depending on the test taken
Other requirements	75 hours of community service in high school	–	–
Postsecondary GPA (for renewal)	3.00	2.75	2.75

Note: Alternative eligibility criteria exist for home-schooled students and GED recipients. All awards can be renewed for up to seven years or until a degree is earned, or a certain number of credit hours is attained (whichever comes first). Awards can be used only at postsecondary institutions in the state of Florida.

Source: Postsecondary Education Planning Commission (1999).

In its initial year of operation in 1997-98, the Bright Futures program awarded $69.6 million to 42,519 students, or an average award of $1,637 per student (Florida Department of Education, 2001a). In its second year, the program expanded to award $93.3 million to 56,281 students, with approximately 57 percent of the dollars going to existing postsecondary students renewing their scholarships, and the remainder awarded to incoming students (Sue Jones, Florida Department of Education, personal communication, January 12, 2000). In the most recent year for which data are available, $164.8 million were distributed to more than 87,000 students in 2000-01, or an average of $1,894 per student (Florida Department of Education, 2001a).

Michigan created its merit-aid program, the Michigan Merit Award Scholarship Program, in 1999, using a portion of its tobacco lawsuit settlement funds. The stated goal of the legislation creating the program was "to increase access to postsecondary education and reward Michigan high school graduates who have demonstrated academic achievement" (Michigan Merit Award Scholarship Act, 1999, p. 2). The program provides one-time grants of $2,500 to students attending in-state public institutions, and $1,000 to those attending private or out-of-state institutions, with no income eligibility requirements. In its first year in operation, in the 2000-01 academic year, approximately 37,000, or 30 percent of all graduating seniors, qualified for a scholarship (Michigan Department of Treasury, 2000).

The Michigan program awards scholarships to students who score at Level 1 (exceeds Michigan standards) or Level 2 (meets Michigan standards) on all four portions of the Michigan Educational Assessment Program High School Tests (MEAP HST). The MEAP tests are criterion-referenced tests designed to measure knowledge of the state's curricular frameworks. The tests are given in four subject areas: mathematics, reading, science, and writing. Although the vast majority of scholarship recipients qualify through the MEAP test, the legislation also provides an alternative path for qualifying for the scholarships. To qualify under this alternative path, students must: 1) take all four subject area tests; 2) receive a score of Level 1 or 2 on at least two of the tests, and 3) score in the top 25 percent nationally on the SAT I, ACT, or ACT WorkKeys tests.[1] All students in Michigan, regardless of family income or other characteristics, are eligible for the awards if they meet the test requirements.[2]

See the Appendix for information on the source of the data used in the analyses in this chapter.

THEORETICAL FRAMEWORKS

Two theoretical frameworks help us understand how the merit-aid programs in Michigan and Florida (as well as the other state programs in this report) influence the college enrollment decisions of high school graduates. The first is grounded in human capital theory of microeconomics. Gary Becker (1993) and Theodore Schultz (1963) are among the most prominent authors of this explanation for why individuals acquire education and training. They theorize that individuals seek to increase their amount of human capital in order to earn higher returns in labor markets. Individuals do this primarily through investing in education, seeking to acquire skills or credentials that increase their productivity and lead to greater labor market rewards. The theory of human capital is akin to the theory of production among firms; just as firms invest in capital (financial and physical) in order to maximize output, individuals invest in human capital in order to maximize their output.

Since the potential rate of return on an investment depends on its initial price, the decision to attend college is also constrained by price. Thus, price theory in microeconomics helps explain the role of financial aid in college access and choice. The aid acts to lower the net price paid by the student, increasing the likelihood that she will be able and willing to invest in postsecondary education. Research on the college choice process (examples of which are described below) shows that financial aid is particularly effective at increasing the probability that a student from a lower-income family will enroll in college, and much less effective for students from higher-income families.

There is a long and rich history of research studies that have examined the effectiveness of financial aid on influencing the decisions that potential students make about enrolling in college. This research is often referred to as "student price responsiveness," "student demand," or "student price elasticity" studies. Reviews of much of this research have been published over the last three decades by Heller (1997), Jackson and Weathersby (1975), and Leslie and Brinkman (1988).

While these studies have been conducted at different times, utilizing a broad range of research methodologies and different samples of students, they have consistently reached two conclusions. First, different types of financial aid awards have varying impacts on college enrollment behavior: grants tend to have a stronger influence on college enrollment than do student loans or work study awards of the same magnitude. Second, students with different characteristics have varying enrollment reactions to changes in the amount of financial aid offered: African American, Hispanic, and low income students tend to be more price-responsive (i.e., they are more likely to enroll in college, or change the type of institution in which they enroll) than white and middle- and upper-income students.

Two examples illustrate these effects. St. John (1990) analyzed the High School and Beyond sophomore cohort to examine the effects of tuition and financial aid increases on the college enrollment decisions of graduating high school students. He found that for low-income students, the enrollment response to a $100 increase in grant aid was over twice the response to a $100 decrease in the tuition price. In addition, the enrollment response of these students was over twice as large as the grant and tuition sensitivity of higher-income students. Heller (1999a) examined the public higher education enrollment response of different racial groups to increases in state grant spending. He found that the enrollment response of African Americans to increased state grant spending was approximately 3.7 times as large as that of white students, and that of Hispanics was 2.8 times as large as that of whites.

A second body of research that helps explain the effects of merit-aid programs examines the relationship between students' socioeconomic characteristics and the results of standardized tests. Since these programs award scholarships based on test performance, differences in performance among varying groups of students help explain how the scholarships can have differential effects.

Studies of high school students that have examined student characteristics such as race, ethnicity, or socioeconomic status (SES) have consistently found strong relationships between those constructs and performance on standardized tests. Significant achievement gaps between white and Asian American students on one hand, and Hispanic and African American students on the other, and between high SES students and low SES students, have been identified. These gaps persist regardless of what specific learning outcome is measured, or whether the analysis is conducted at the level of individual students within schools or at the level of the schools themselves.

The gaps in test performance have been found consistently in reports from the National Assessment of Educational Progress (NAEP), a federal program that has tested nationally representative samples of students in various subjects since 1969. The gaps are present in every subject area and every grade level (Bruschi & Anderson, 1994; Donahue, Voekl, Campbell, & Mazzeo, 1999; Greenwald, Persky, Campbell, & Mazzeo, 1999; Lee, 1998; O'Sullivan, Reese, & Mazzeo, 1997; Reese, Miller, Mazzeo, & Dossey, 1997; Sedlacek, 1995).

Because race and SES are often correlated, it is difficult to parse the effects of each factor on academic achievement (Orfield, 1994). One study that attempted to do so is a meta-analysis of seven previous studies, all of which used nationally representative samples of high school students from 1965 to 1996 (Hedges & Nowell, 1999). This study found that about a third of the African American-white racial gap in test scores is attributable to SES differences between the races. The authors also show that, while the gap is smaller at the bottom 5 percent and 10 percent of the test-score distribution (indicated by over-representation of African Americans), the top of the distribution shows a much larger gap: a hugely disproportionate underrepresentation of African Americans relative to whites. Unlike economic status at the student level, however, school-level resources have generally not been found to correlate with student performance. Students who attend schools with lower per-pupil spending do not perform worse on tests compared to those in high-spending schools, when controlling for students' socioeconomic status and other variables (Gaudet, 1994; Sedlacek, 1995).

THE EFFECTS OF THE MERIT-AID PROGRAMS

Because of the strong association between socioeconomic characteristics and test performance, we would expect to see substantial variations in the distribution of scholarships in Florida and Michigan, which are based on test performance. And that is exactly what we found. Our data demonstrate a very strong relationship between socioeconomic characteristics and the rate at which students qualify for merit scholarships in Florida and Michigan. In both states, African Americans and Hispanics qualify for the scholarships at rates well below those of white and Asian American students (see Table 2-2). In Florida, while the overall scholarship rate was

26 percent, the rates for each group ranged from a low of under 9 percent of all African American high school graduates to a high of 43 percent of Asian/Pacific Islander graduates. While white students represented 61 percent of all high school graduates in the state, they were 77 percent of the scholarship recipients.[3] Differences were also seen in the type of Bright Futures scholarship (described in more detail in Table 2-1) for which students qualified. While 31 percent of whites and 38 percent of Asian Americans qualified for the Florida Academic Scholar award, the highest award level, only 12 percent and 23 percent of African Americans and Hispanics, respectively, qualified for that same award.

Table 2-2: Scholarship Rates for Florida 1998 Public High School Graduates

Race	High School Graduates	% of Total Graduates	# of Award Recipients	Scholarship Rate	% of All Recipients
Native American	196	0.2%	55	28.1%	0.2%
Asian/Pacific Islander	2,695	2.8	1,145	42.5	4.5
African American	21,195	21.7	1,893	8.9	7.5
Hispanic	13,818	14.2	2,527	18.3	10.0
White	59,637	61.1	19,331	32.4	76.8
Multiracial*	–	–	67	–	0.3
Other*	–	–	157	–	0.6
Total	97,541	100.0	25,175	25.8	100.0

* While the Postsecondary Education Planning Commission allows students to indicate their race as "other" or "multiracial," the state Department of Education does not use these categories. Students with missing race data are excluded from the calculations.

Source: Authors' calculations.

The patterns are similar in Michigan (Table 2-3).[4] The scholarship qualification rates ranged from a low of 8 percent of African Americans to a high of 52 percent of Asian/Pacific Islander students. Of those Michigan students eligible to receive the awards, over 93 percent qualified for the scholarships by scoring at the required levels on all four MEAP tests. Approximately 6.5 percent qualified by passing two of the MEAP tests and scoring in the top 25 percent nationally on the ACT, and 0.15 percent qualified via the MEAP and SAT. No students qualified via the MEAP and WorkKeys test.

Table 2-3: Scholarship Qualification Rates for Michigan 1999 11th Graders in Public Schools

Race	Grade 11 Enrollment	% of Total	# of Award Recipients	Qualification Rate	% of All Recipients
Native American	1,191	1.1%	219	18.4%	0.6%
Asian/Pacific Islander	1,855	1.6	964	52.0	2.7
African American	15,360	13.6	1,217	7.9	3.5
Hispanic	2,445	2.2	601	24.6	1.7
White	90,980	80.4	30,729	33.8	87.6
Multiracial	1,294	1.1	599	46.3	1.7
Other*		0.0	745	–	2.1
Total	113,125	100.0	35,074	31.0	100.0

* While the MEAP tests allow students to indicate their race as "other," the state Department of Education does not use this category for enrollment reports. Students with missing race data are excluded from the calculations.

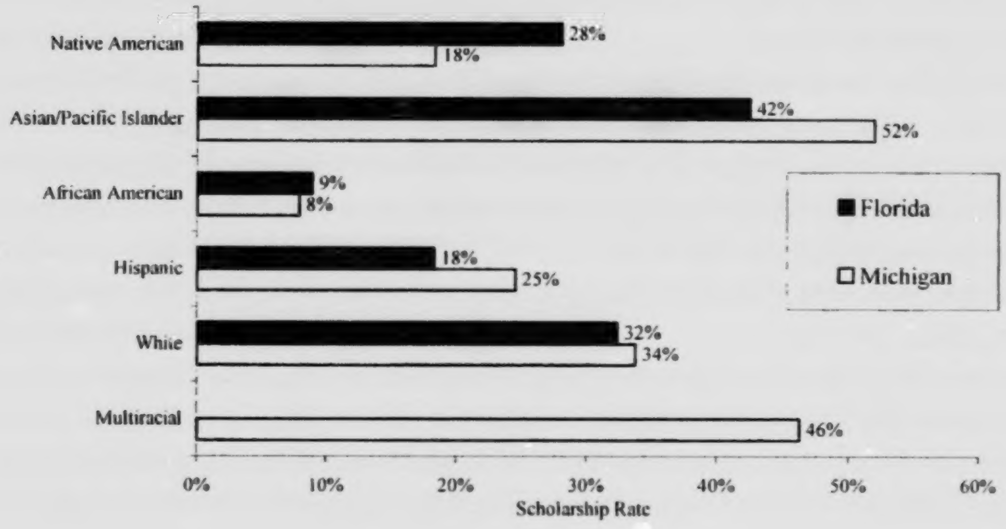
Source: Authors' calculations.

The large disparities in scholarship rates are similar for the two states, with white and Asian American students much more likely to receive scholarship aid than African American and Hispanic students (Figure 2-1).

Figure 2-1: Scholarship Rates by Race

Note: Florida did not record Bright Futures recipients as "multiracial," thus a scholarship rate cannot be calculated for that group.

Source: Authors' calculations.



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There is also a strong relationship between the income levels in the communities in which students attend school, as measured by the proportion of students who qualify for free or reduced-price lunch under the National School Lunch Program (herein designated as "free lunch"), and the probability that a student would earn a scholarship.

We divided the public high schools in each state into quintiles based on the percentage of students in each school who qualified for free lunch. The scholarship rates of each group are shown in Table 2-4.

Table 2-4: Scholarship Rates by High School Free Lunch Quintile

Quintile	Florida	Michigan
1st quintile (schools with fewest students receiving free lunch)	28.4%	45.6%
2nd quintile	24.1	43.7
3rd quintile	20.3	38.9
4th quintile	19.1	30.2
5th quintile (schools with most students receiving free lunch)	11.1	16.4
Correlation of school free lunch percentage and school scholarship rate	–0.58 (p<.001)	–0.54 (p<.001)

Note: The analyses were weighted by the number of graduating seniors in each high school.

Source: Authors' calculations.

In an effort to determine the relationship between the distribution of scholarship awards and the college attendance patterns of high schools in the state, we examined the college-going rates of high schools in each of the two states, and found that the greater proportion of the awards have been distributed to students in high schools with higher college-participation rates (before implementation of the merit scholarship programs). As a result, we conclude that the impact of the merit-aid programs on college access is likely to be much less than those scholarship programs that target their awards to students based on financial need.

To determine college-going rates, we used data on the number of students who continued on to postsecondary education after graduating from high school for the academic year before implementation of the merit scholarship program (1995-96 in Florida, averages of the 1996-97 through 1998-99 rates in Michigan). We divided the high schools into quintiles, based on their college attendance rates before implementation of the merit scholarship programs. We then compared the scholarship rates of the schools in each group. Table 2-5 presents the scholarship rates for the high schools in each state, arranged by the high school's college participation quintile.[5] Schools with the highest proportion of students attending college (before implementation of the state's merit scholarship program) had the highest percentage of students receiving a scholarship.

Table 2-5: Scholarship Rates by High School College Participation Rate Quintile

Quintile	Florida	Michigan
1st quintile (highest college participation rate)	26.1%	44.0%
2nd quintile	20.4	37.5
3rd quintile	17.4	39.1
4th quintile	9.6	34.7
5th quintile (lowest college participation rate)	5.2	25.4
Correlation of school college participation rate and school scholarship rate	0.58 ($p<.001$)	0.34 ($p<.001$)

Note: The analyses were weighted by the number of graduating seniors in each high school.

Source: Authors' calculations.

A few sample high schools can help to illustrate this conclusion (Table 2-6). Grosse Ile High School, located in a wealthy suburb of Detroit, sent 94 percent of its students on to some form of postsecondary education before the scholarship program was implemented. Thus, the scholarship program could have induced *at most* the remaining 6 percent of the graduates in that school to attend college.[6] However, 64 percent of the students in this school qualified for scholarships, indicating that *at least* 58 percent of the scholarships went to students who would likely have been college-bound anyway. In contrast, Hamtramck and River Rouge high schools are located in poor communities near Detroit. Less than 40 percent of the students in these schools attended college before the implementation of the scholarship program. Yet less than 15 percent in each qualified for the scholarships. It should be noted here the possibility that the scholarships could have had some impact on college choice among these students. For example, the $2,500 award may have induced a student who otherwise would have enrolled in a community college to enroll instead in a 4-year institution. But increasing college *choice* was not a legislated goal of the program; increasing college *access* was.

Table 2-6: College Participation and Scholarship Rates in Michigan Public High Schools

High School	College Participation Rate	Scholarship Rate
Statewide average	73%	37%
Grosse Ile HS	94	64
Farmington HS	93	69
Community HS (Ann Arbor)	93	60
Calumet HS	95	80
River Rouge HS	37	8
Hamtramck HS	30	14
Roseville HS	35	20
Madison HS	44	14

Note: The statewide averages were weighted by the number of graduating seniors in each high school. Each high school shown had a graduating class of at least 90 students.

Source: Michigan Department of Education (1999) and authors' calculations.

Similar patterns can be seen among Florida high schools (Table 2-7). Unlike the Michigan program, the Florida Bright Futures program does not have as one of its legislated goals increasing college access; rewarding academic achievement is the sole goal (Florida Bright Futures Scholarship Program, 1997). Yet like the Michigan program, it is quite apparent that many of the scholarships are likely being awarded to students who would attend college even without the scholarship assistance.

Table 2-7: College Participation and Scholarship Rates in Florida Public High Schools

High School	College Participation Rate	Scholarship Rate
Statewide average	50%	21%
Stanton Prep (Jacksonville)	74	58
Mast Academy (Key Biscayne)	73	42
Lincoln Park Academy (Ft. Pierce)	70	43
Seminole HS	70	41
Hollins HS (St. Petersburg)	39	9
Edison HS (Miami)	39	1
Shanks HS (Quincy)	36	7
Andrew Jackson HS (Jacksonville)	34	7

Note: The statewide averages were weighted by the number of graduating seniors in each high school. Each high school shown had a graduating class of at least 100 students.

Source: Florida Department of Education (2001b) and authors' calculations.

CONCLUSION

Our data show that the groups of students least likely to be awarded these scholarships are the populations who have traditionally been underrepresented in higher education. Data on college participation rates by race indicate a large disparity between white and Asian American students, who have higher college-going rates, and African Americans and Hispanics, who attend college at lower rates (Heller, 1999b; Koretz, 1990). Other studies have demonstrated the gap in college participation by income level (Advisory Committee on Student Financial Assistance, 2001; Ellwood & Kane, 1999; Mortenson, 2000).

There do not appear to be large differences in the criteria used for awarding the scholarships in the two states, and the resulting distribution of the awards. Overall, a higher percentage of students in Michigan than in Florida were awarded scholarships, but the distributional effects within the two states were very similar. The difference between the use of a statewide criterion-referenced test (in Michigan) and the use of high school grades and national standardized tests (in Florida) was negligible.

As described in Chapter 1, merit scholarship programs like those in Florida and Michigan have proven to be quite popular in recent years. As these programs crowd out need-based scholarship programs, which traditionally have focused their awards on students who require financial assistance to attend college, it is likely that college access among lower income students will suffer. Merit scholarship programs are likely to exacerbate, rather than help remedy, college enrollment gaps in the United States.

The racial disparity in the scholarship awards in Michigan has formed the basis of a federal lawsuit challenging the legality of the program. A coalition of groups, headed by the

American Civil Liberties Union of Michigan, filed the suit in 2000 (*White et al. vs. Engler et al.*), alleging that the program violates Title VI of the Civil Rights Act of 1964, and the 14th Amendment to the U.S. Constitution. The case is expected to go to trial later in 2002.

While merit scholarship programs have broad political support and possess wide popular appeal, policymakers need to be aware of the distortional impact of such programs and the concomitant negative implications for the expansion of equality of educational opportunity. States should consider the criteria that are used in the awarding of merit scholarships and create eligibility standards that promote equitable access to an increasingly large share of student financial aid expenditures.

APPENDIX – DATA SOURCES

The Michigan student-level data were obtained from the Michigan Merit Award Board (National Computer Systems, 1999). Additional data were acquired from the Michigan School Report (MSR), which includes data on enrollments, graduates, and college participation rates of public high schools in the state (Michigan Department of Education, 1999). The Florida scholarship data were provided to the researchers by the Florida Postsecondary Education Planning Commission. Both the Michigan and Florida Departments of Education report data on the number of graduates of public high schools each year and, among those graduates, how many enroll in postsecondary education the subsequent fall (Florida Department of Education, 2001b; Michigan Department of Education, 1999). Additional high school-level data from both states were obtained from the Common Core of Data files from the National Center for Education Statistics (National Center for Education Statistics, 2001).

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NOTES

[1] For the first cohort of students, the qualifying SAT combined score was 1170 and the ACT composite score was 24. The WorkKeys test assesses individuals' knowledge of workplace skills, and is often taken by students enrolled in vocational programs in secondary school. It tests skills in the areas of applied mathematics, applied technology, listening, locating information, observation, reading for information, teamwork, and writing. Students who qualify for a scholarship via the WorkKeys test can use the funds for postsecondary vocational or technical training only.

[2] The full $2,500 scholarship is awarded for students attending college or some other form of postsecondary training in Michigan. Students attending out-of-state institutions are eligible for a $1,000 award. In addition to these awards, students achieving certain scores on the 7th and 8th grade MEAP tests are eligible for up to an additional $500 in scholarship funding.

[3] The Florida data represent students who were first-year college students and used their scholarship in the 1998-99 school year. Because the scholarships provide such a large percentage of tuition costs, and the students are clearly academically talented, we believe that these data are a good proxy of the overall rates at which students from different groups and in different high schools qualified for the scholarships. Because the Bright Futures program awards scholarships only to students attending college in Florida (public or private institutions), the data include only those students. Thus, there may be some bias in the measures presented here if there are differentials in the rate at which students from different racial groups or high schools migrate out of state to attend college.

[4] Because the MEAP tests are given in 11th grade, the 11th grade enrollment in the 1998-99 school year is used as the basis for calculating the qualification rates for the Michigan students.

[5] The Michigan data are based on high schools' report of their graduates' status in the fall following graduation from high school. Because the high schools do not report the data every year, we took the average rate from a three-year period. The Florida data are based on student-level enrollment records in public and private universities in Florida, and thus exclude students attending college outside of the state.

[6] This assumes, of course, no large behavioral changes in the college-going patterns of the students in this school due to other factors in the first year the program was implemented.

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CHAPTER 3

INCENTIVE EFFECTS OF NEW MEXICO'S MERIT-BASED STATE SCHOLARSHIP PROGRAM: WHO RESPONDS AND HOW?

Melissa Binder and Philip T. Ganderton

with

Kristin Hutchens

INTRODUCTION

As described in the introduction to this report, a recent spate of large merit-based state scholarship programs, often funded by state lotteries, has raised concerns that the nation is turning away from the principle of ensuring access to college through need-based awards. Sponsors of the new programs deny this; although the merit-based programs are, by design, need-blind, many have been promoted as a means to increase college access. In New Mexico, for example, television advertisements promoting lottery tickets present a gowned graduate who tells us that she is the first in her family to attend college, and that she could not have done it without the lottery scholarship. Nevertheless, since academic performance is closely linked to family income, most merit programs will likely disproportionately benefit students from better off families. This tendency may exacerbate the under-representation of minority students in higher education.

In this paper we evaluate the enrollment, academic, and retention effects of New Mexico's lottery scholarship program using institution- and student-level data. We also compare the program effects by the race and Hispanic origin of students. Of particular interest is the response of Hispanics and Native Americans, given their relative prevalence in the New Mexico postsecondary student population (NMCHE, 2001).

THE NEW MEXICO LOTTERY SUCCESS SCHOLARSHIP

The New Mexico state lottery funds "NM Success," a broad-based scholarship program with very minimal criteria for eligibility. Between its inception in the fall of 1997 (with the first scholarships awarded to students attending college in the fall of 1998) and the spring of 2001, the program has benefited 13,980 students, who received a total of $40.5 million in aid.

In contrast to Georgia's HOPE (see Chapters 4, 5, and 6), Florida's Bright Futures scholarships (see Chapter 2) and other similar programs which require a certain high school grade point average (GPA) to qualify for aid, NM Success scholarships are not awarded for high school performance. Instead, NM Success eligibility depends on college performance in a student's first semester. Students who enroll in a public two- or four-year college in the next semester following their high school graduation, carry a full course load, and maintain at least a 2.5 GPA, automatically receive a full scholarship to New Mexico state-supported institutions. Since students only become eligible in their second semester of the first year of college, most institutions provide a "bridging" scholarship, using essentially the same criteria for eligibility as NM Success. For example, the University of New Mexico (UNM) requires a high school GPA of at least 2.5 for its Bridge to Success Scholarship (Bridge).

To maintain the scholarship, students must continue to maintain a 2.5 GPA, and enroll continuously and full-time. (The 2.5 GPA requirement is the lowest of any similar program. Georgia's HOPE scholarship, for example, requires students to maintain a 3.0 GPA to qualify for aid.) After the first, qualifying semester, students may receive up to eight semesters' tuition on NM Success. Students may postpone the award, maintain the award after transferring institutions, and receive an award after becoming ineligible for other aid. They may also, if their GPA dips below 2.5, re-establish eligibility after a probationary period.

PREDICTED EFFECTS OF NM SUCCESS

It is a commonplace of economic theory that when the price falls, quantity demanded will rise. Nevertheless, the demand response depends crucially on the size of the price change and on the budget share devoted to the item. Although the pre-program (1996) tuition and fees at New

Mexico's research universities—at more than $2,000—were not insubstantial, costs at two-year colleges were much lower. For example, a community college a few blocks away from UNM charged less than $700 a year in tuition and fees; the New Mexico Junior College in Hobbs charged only $350. These figures suggest that the direct cost of entering college in New Mexico was relatively low even before NM Success began.

Another price consideration is the size of tuition costs relative to other direct costs, such as textbooks and, more importantly, relative to the indirect (or opportunity) costs incurred by spending time in school that could otherwise be spent working for pay. For the 1996-97 academic year, UNM tuition and fees made up only 17 percent of total college costs, including books, transportation and opportunity costs.[1] For the neighboring community college, tuition and fees are only 7 percent of total college costs.

Thus although NM Success reduces tuition to zero for eligible students, tuition at many New Mexico public institutions is low to begin with and makes up only a small share of total college costs. While the tuition cost may still be a barrier for the poorest students in the state, it is likely that the scholarship program would have little effect on college attendance rates other than these students. At the same time, though, the difference in tuition costs among New Mexico institutions is substantial. By eliminating the cost difference among institutions, the program allows students to choose among colleges based on quality alone, rather than trade off quality for cost. This change would presumably increase enrollments at UNM, at the expense of less prestigious two-year colleges. This was particularly likely given the near open-enrollment policies at UNM. The situation is reversed for students considering out-of-state options: the scholarship program increases the cost difference between in- and out-of-state colleges. This change would have induced students to attend in-state colleges.

Aside from the predicted enrollment effects, the legislated requirements of NM Success should also induce changes in attendance and academic performance. By requiring students to enroll continuously to keep the scholarship, the program should improve retention at in-state institutions. At the same time, the requirement that students maintain a 2.5 grade point average, which is higher than the 1.7 GPA required for freshmen to maintain good academic standing at UNM, may encourage students to study harder to ensure that they continue to receive aid (Betts, 1997). Alternatively, the performance criterion may lead to grade inflation, or may induce students to take less-demanding courses or hours (Dynarski, 2000; Bugler, Henry & Rubenstein, 1999).

EMPIRICAL APPROACH

To investigate whether these predicted effects actually happened, we perform a straightforward comparison of enrollment rates and student characteristics before and after the inception of the scholarship program. NM Success is a natural experiment: those who were eligible for a Success scholarship due to the timing of their high school graduation comprise the treatment group and those who could not receive a scholarship because they graduated from high school before the program began comprise the control group. As with any natural experiment, the validity of our results depends crucially on the similarity of the treatment and control groups (Meyer, 1995). The problem is that measurable differences between the groups may result from changes over time other than the treatment.

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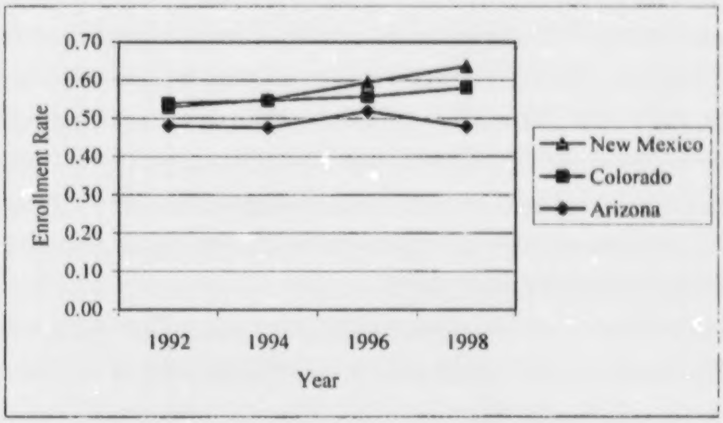
[1] Assuming that an employed high school graduate can cover the room, board, and miscellaneous expenses of a student, we use UNM Financial Aid Office budgets for these expenditures as an approximation of the opportunity costs.

In order to compensate for this possibility, we also use the enrollment experience of other states as a control (similar to the methodologies used in Chapters 4 and 5). We also found that alternative explanations for the changes in enrollments after implementation of NM Success, such as changes in income distribution, are inconsistent with the enrollment changes we observe (Binder & Ganderton, 2002).

STATE LEVEL EFFECTS

The comparisons of pre-program and post-program enrollment rates suggest that NM Success did not change the college-going rates of New Mexico students. Using the Integrated Postsecondary Education Data System (IPEDS) to identify freshmen enrollments of recent high school graduates by state of residence in all United States accredited, two-year or higher, degree-granting institutions, we found that the increase in postsecondary enrollment of New Mexico students between 1996 and 1998, the first year NM Success took effect, shows no discontinuity with the trend of rising enrollments prior to the lottery program (Figure 3-1). Moreover, there is no significant difference between the trends for New Mexico students and those for students from Arizona and Colorado, two neighboring states that, like New Mexico, have relatively small populations for the land area and share a natural resources-based economy.

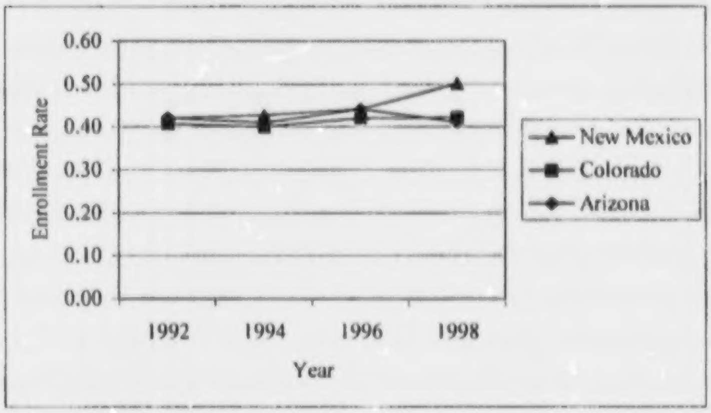
Figure 3-1: Total College Enrollment Rates of Public High School Graduates
Source: IPEDS.



And, although the 2000 IPEDS data are not yet available, the New Mexico Commission on Higher Education reports that enrollment at all in-state institutions rose by only two percent between 1998 and 2000. This was the smallest increase of any two-year period between 1992 and 2000. It is unlikely, then, that a large enrollment response to NM Success was merely delayed (NMCHE, 2001). The program, therefore, did not expand access to college for New Mexican high school graduates.

Enrollment rates for in-state institutions tell a different story. From 1992 through 1998, all three states posted remarkably similar rates, but in 1998, New Mexico experienced a decided increase—a seven percentage point rise, representing a 16 percent increase from the pre-program mean (Figure 3-2). Clearly, NM Success produced a significant diversion of students away from out-of-state colleges.

Figure 3-2: In-State College Enrollment Rates of Public High School Graduates
Source: IPEDS.



At the same time, the program appears to have prompted a shift from two-year institutions to four-year institutions within New Mexico (Figures 3-3 and 3-4). Compared with Arizona and Colorado, New Mexico shows a sharp drop in two-year college enrollments between 1996 and 1998, and a sharp increase in four-year college enrollments during that period. This trend, as well as the steep increase in in-state enrollments, is similar to the effects seen in Georgia following the introduction of the HOPE scholarship (see Chapters 4 and 5).

Figure 3-3: In-State Enrollment Rates for Two-Year Institutions
Source: IPEDS.

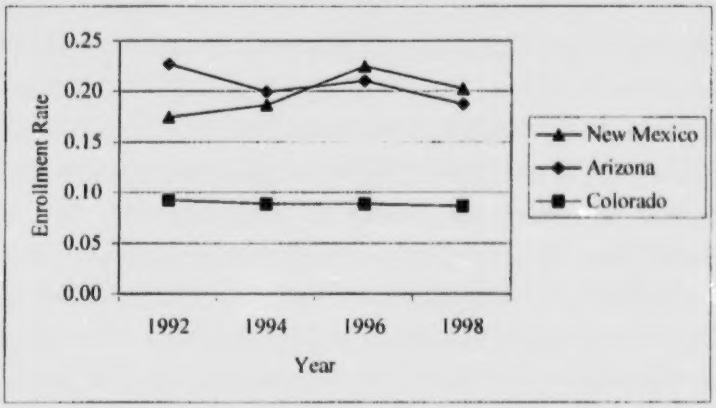
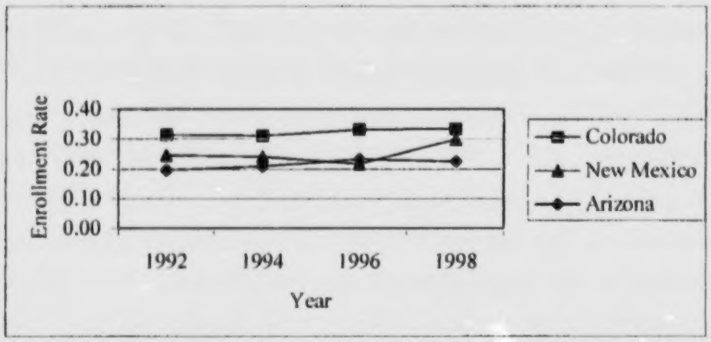


Figure 3-4: In-State Enrollment Rates for Four-Year Institutions
Source: IPEDS.



STUDENT RESPONSES

While the state-level data show that NM Success did not increase college access, data from the University of New Mexico, the state's largest institution of higher education, also suggest that the program did not benefit all students equally. The university's "Freshmen tracking system" (Chisholm, 2000) shows that the overwhelming majority of freshmen qualify for Bridge to Success scholarships, which are based on high school grades; 83 percent of entering freshmen women and 86 percent of entering freshmen men earned the awards in the first year of the program (Table 3-1). However, substantially fewer students—62 percent of women and 51 percent of men—earned the Success scholarships in the second semester, indicating that large numbers of students failed to maintain a 2.5 GPA or failed to enroll continuously. Scholarship loss is particularly acute among minority men: coverage drops 44 percent for

Hispanic men, and nearly two-thirds for African American and Native American men. As a result, although the recipients of the Bridge scholarships mirror the overall student body, non-Hispanic whites and students from better-off families are slightly over-represented in the Success program (Table 3-2).

Table 3-1: Share of 1998 and 1999 Incoming In-State Freshmen Receiving Bridge (1st Semester) and Lottery (2nd Semester) Scholarships by Race, Hispanic Origin and Gender

		White, Non-Hispanic	Hispanic	Native American	Asian	African American	Total
Men							
	Bridge	.84	.88	.92	.83	.93	.86
	Lottery	.53	.49	.34	.56	.33	.51
Women							
	Bridge	.81	.84	.90	.80	.89	.83
	Lottery	.66	.59	.48	.70	.54	.62

Source: UNM Freshman Tracking System (Chisholm, 2000).

Table 3-2: Distribution of All In-State Recent High School Graduates and Lottery and Bridge Recipients Who Entered UNM in 1998 and 1999

	All	Bridge	Lottery
Men	.42	.43	.37
Women	.58	.57	.63
White Non-Hispanic	.50	.49	.53
Hispanic	.39	.40	.38
Native American	.04	.05	.03
Asian	.04	.04	.04
African American	.03	.03	.02
Family Income			
More than $40,000	.75	.75	.78
$40,000 or less	.25	.25	.22
$20,000 or less	.11	.11	.10

Source: UNM Freshman Tracking System (Chisholm, 2000).

Based on the analysis of the state-level data, it is possible that many of the scholarship recipients might have attended out-of-state institutions or lower-cost alternatives in the absence of the program. To find out if this is the case, we compare the characteristics of students who entered the university before the program took effect with those who entered after it was established, controlling for changes in the composition of the student body.

Overall, enrollments rose 78 percent over the pre-program average class size (Table 3-3). Although enrollments rose for all race and Hispanic origin groups, non-Hispanic whites and African Americans experienced the largest percentage increases. This differential response led to a slight increase in the distribution of whites in entering freshman classes compared with pre-program cohorts. The program appears to have increased the representation of women, and especially Hispanic women, relative to the pre-program trend. Perhaps these groups had been more likely to attend college out of state, or to enroll in two-year colleges, before NM Success altered the price differences between these institution types.

Scholarship cohorts had lower high school GPAs, especially after controlling for a pre-program upward trend in grades. The fall in GPAs was especially pronounced for whites and Hispanics. Hispanics also registered the largest increase in the proportion of students with low ACT scores, although all groups, with the exception of African Americans, had higher proportions of low ACT scorers after the scholarship program took effect. The larger proportion of low ACT scorers reduced the proportion of high ACT scorers for whites and Hispanics, and average ACT scorers for Native Americans and Asians. In any case, it is clear that the Success program disproportionately attracted students with lower academic credentials to the University of New Mexico.

Table 3-3: In-State Freshmen Entering UNM Before and After Inception of Lottery Scholarship Program: Characteristics and Differences by Race and Hispanic Origin

		Total[a]	White, Non-Hispanic	Hispanic	Native American	Asian	African American
Entering freshmen class size	Before	1271	611	511	63	60	27
	After	2237	1120	878	99	86	56
	Increase (%)	966 (78%)	509 (83%)	367 (72%)	36 (57%)	26 (43%)	29 (107%)
Enrollment share	Before	-	.480	.402	.049	.047	.021
	After	-	.500	.392	.044	.038	.025
	Corrected difference	-	.020†	-.010	-.005	-.009*	.004‡
Proportion Female	Before	.577	.563	.582	.665	.567	.588
	After	.577	.549	.607	.629	.544	.625
	Corrected difference	.055*^{T}	-.014	.025††	-.035	-.023	.038
High School GPA	Before	3.32	3.35	3.29	3.21	3.48	3.06
	After	3.26	3.30	3.23	3.12	3.39	3.11
	Corrected difference	-0.24*^{T}	-0.27*^{T}	-0.22*^{T}	-0.09†	-0.09†	0.05
ACT higher than 24	Before	.372	.481	.273	.170	.317	.363
	After	.313	.406	.206	.203	.357	.259
	Corrected difference	-.058*	-.140*	-.067*	.033	.040	-.104*
ACT between 20 and 24, inclusive	Before	.370	.347	.393	.399	.389	.325
	After	.373	.387	.381	.274	.281	.268
	Corrected difference	.003	.040*	-.093*	-.125*	-.108*	.341*
ACT lower than 20	Before	.259	.172	.334	.431	.294	.313
	After	.314	.206	.413	.523	.363	.473
	Corrected difference	.102*	.034*	.207*	.092†	.068‡	-.423*

Note: Sample excludes students who are not recent high school graduates. "Before" rows show the average for students entering UNM in the Fall semester of 1994, 1995 and 1996. "After" rows show the average for students entering the Fall semester of 1998 and 1999. Differences are estimated with OLS regression models. ^{T} denotes variables that exhibit a significant pre-program trend; estimated differences are relative to this trend.

*Statistically significant program effect at the 5% level, †the 10% level, ††the 15% level, and the ‡20% level.

[a] May not sum due to rounding.

Source: UNM Freshman Tracking System (Chisholm, 2000).

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The program also appears to have resulted in attracting higher-income students to UNM. Although students from all family income backgrounds increased their enrollments at the university, overall, and for most groups, those with family incomes of more than $40,000 had the largest enrollment response (Table 3-4). The exception is the Native American group, which alone among racial and ethnic groups increased its relative distribution of low-income students. Although the overall representation of students with family incomes of under $40,000 and $20,000 is relatively low at 28 and 14 percent, respectively, in pre-program classes, the distribution varies sharply by group. Compare, for example, whites, Hispanics and Native Americans, whose under-$40,000 representation lies at 19, 35, and 41 percent, respectively. Although all income groups increased their enrollments, clearly the scholarship program *disproportionately* attracted higher income students.

Taken together, these two trends—increases in the proportion of lower-ability students and higher-income students—suggests that the scholarship program produced a freshman class at UNM that was wealthier and less academically prepared. Among whites, Hispanics, and Native Americans, the proportion of high-income, high-ability students fell after the program was in place, and for whites and Hispanics, high ability students in all income categories became less prevalent (Table 3-5). Notably, the high ability, low-income group became more prevalent for Native Americans. Anecdotal evidence provided by the director of American Indian Student Services at UNM suggests that the lottery scholarship made UNM a "better deal," relative to out-of-state institutions they might otherwise have chosen.

What were the effects of the scholarship program on student performance? First-semester GPA increased, but the number of hours completed went down, which suggests that students may have taken fewer courses in order to keep their grades up (Table 3-6). But the retention rate from first semester to second semester declined significantly, for students overall, and for whites and Hispanics in particular. Once again, though, Native Americans, proved an exception, exhibiting a higher retention rate after the program's inception.

Table 3-4: Student Enrollment Responses by Family Income, Race and Hispanic Origin

		TOTAL	White, Non-Hispanic	Hispanic	Native American	Asian	African American
Family income greater than 40k							
Average class size	Before	914	493	332	37	38	14
	After	1676	932	598	55	59	33
	Increase (%)	762 (83%)	439 (89%)	266 (80%)	18 (49%)	21 (55%)	19 (136%)
Share of (column) group	Before	.719	.808	.649	.590	.628	.512
	After	.749	.832	.681	.558	.690	.589
Corrected difference		.030*	.024*	.032*	.032	.396* T	.077
Family income equal to or less than $40,000							
Average class size	Before	358	117	179	26	22	13
	After	561	188	280	44	27	23
	Increase (%)	203 (57%)	71 (61%)	101 (56%)	18 (69%)	5 (23%)	10 (77%)
Share of (column) group	Before	.281	.192	.351	.410	.372	.488
	After	.251	.168	.319	.442	.310	.411
Corrected difference		-.031*	-.024*	-.032†	.032	-.396* T	-.077
Family income equal to or less than $20,000							
Average class size	Before	178	57	87	14	13	7
	After	244	77	119	22	14	13
	Increase (%)	64 (34%)	20 (35%)	32 (37%)	8 (57%)	1(8%)	6 (86%)
Share of (column) group	Before	.140	.093	.170	.223	.222	.250
	After	.109	.068	.135	.223	.164	.223
Corrected difference		-.031*	-.024*	-.035*	0	-.058‡	-.027

Note: All students are residents of New Mexico and recent high school graduates. "Before" rows show the average for students entering UNM in the Fall semester of 1994, 1995 and 1996. "After" rows show the average for students entering the Fall semester of 1998 and 1999. Differences are estimated with OLS regression models. T denotes variables that exhibit a significant pre-program trend; estimated differences are relative to this trend.

*Statistically significant program effect at the 5% level, †the 10% level, ††the 15% level, and the ‡20% level.

Source: UNM Freshman Tracking System (Chisholm, 2000).

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Table 3-5: Program Differences in the Distribution of Income and Ability Groups by Race and Hispanic Origin

	Total	White, Non-Hispanic	Hispanic	Native American	Asian	African American
Family income more than $40,000						
High ability	-.036*	-.120*^{T}	-.037*	-.081*^{T}	.226*	-.056
Average ability	.015††	.113*^{T}	-.125*^{T}	-.109*	-.034	.374*^{T}
Low ability	.093*^{T}	.035*	.145*^{T}	.036	.304*^{T}	-.306*^{T}
Family income $40,000 or less						
High ability	-.023*	-.021*	-.030*	.134*^{T}	.021	-.048
Average ability	-.012*	-.002	-.011	-.016	-.074*	-.093†
Low ability	.005	-.001	.062*^{T}	.056‡	-.270*^{T}	.064
Family income $20,000 or less						
High ability	-.016*	-.017*	-.020*	.090*^{T}	.008	-.034
Average ability	-.006††	-.002	.028*^{T}	-.018	-.043*	.000
Low ability	-.008†	-.010††	-.010	.025	-.023	.007

Note: All students are New Mexico residents and recent high school graduates. Ability categories reflect ACT scores as follows: High > 24, Medium 20-24 and Low <20. Differences are estimated with OLS regression models. ^{T} denotes variables that exhibit a significant pre-program trend; estimated differences are relative to this trend.

*Statistically significant program effect at the 5% level, †the 10% level, ††the 15% level, and the ‡20% level.

Source: UNM Freshman Tracking System (Chisholm, 2000).

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Table 3-6: College Performance Measures Before and after Inception of Lottery Scholarship Program and Corrected Differences, by Race and Hispanic Origin

		Total	White, Non-Hispanic	Hispanic	Native American	Asian	African American
1st Semester registered hours	Before	14.0	14.0	13.8	13.5	14.6	13.8
	After	13.8	13.7	13.8	13.5	13.9	13.8
	Corrected difference	-0.1*	-0.3*	0	0	-0.7*	0.1
1st Semester completed hours	Before	11.9	12.1	11.5	10.8	12.5	10.5
	After	11.1	11.7	10.6	10.0	10.6	10.2
	Corrected difference	-0.5*	-0.4*	-0.5*	-0.6‡	-1.1*	-.9††
1st Semester GPA	Before	2.57	2.62	2.49	2.22	2.86	2.30
	After	2.57	2.63	2.52	2.27	2.70	2.55
	Corrected difference	0.06*	0.05‡	0.07†	0.13	-0.02	0.07
Retention rate from 1st to 2nd semester	Before	.899	.877	.905	.867	.927	.886
	After	.856	.843	.852	.917	.935	.879
	Corrected difference	-.037*	-.041*	-.050*	.053‡	.024	-.035
2nd Semester registered hours	Before	14.6	14.6	14.5	14.2	15.5	14.4
	After	14.3	14.4	14.1	14.1	14.6	13.8
	Corrected difference	-0.2*	-0.2††	0.3*	0	-0.7*	-0.3
2nd Semester completed hours	Before	12.9	13.0	12.6	11.7	13.6	12.2
	After	12.4	12.9	12.0	11.2	12.4	10.7
	Corrected difference	-0.4*	0	-0.6*	0.4	0.7†	-1.4*
2nd Semester GPA	Before	2.59	2.68	2.53	2.00	2.81	2.29
	After	2.58	2.72	2.47	1.96	2.74	2.15
	Corrected difference	0.04††	0.09*	-0.01	-0.02	0.10	-0.60*
Retention rate from 1st to 3rd semester	Before	.723	.698	.727	.573	.812	.693
	After	.682	.688	.663	.620	.761	.690
	Corrected difference	-.028*	-.020	-.043*	.020	-.006	-.036

Note: All students are New Mexico residents and recent high school graduates. "Before" rows show the average for students entering UNM in the Fall semester of 1994, 1995 and 1996. "After" rows show the average for students entering the Fall semester of 1998 and 1999. Corrected differences are adjusted for student characteristics and represent the difference from what would be expected in the absence of the scholarship program.

*Statistically significant program effect at the 5% level, †the 10% level, ††the 15% level, and the ‡20% level.

Source: UNM Freshman Tracking System (Chisholm, 2000).

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CONCLUSION

As the advertisements for the NM Success program indicate, sponsors of the program maintain that the scholarships will enhance access to higher education, particularly for students who may not have considered going to college. Our study finds little evidence that the program has had this effect. We found that the program did not boost college attendance for New Mexico high school seniors, but that it did redirect students from out-of-state institutions to institutions in New Mexico, and from two-year colleges to four-year colleges and universities.

Moreover, we found that the beneficiaries of the scholarships tended to be white students and students from higher-income families. The proportion of students at the University of New Mexico from lower-income families declined after the scholarship program was in place.

We also found that NM Success produced an increase in the proportion of lower-ability students at UNM. Notably, the attrition rate of first-year students increased after the program went into effect, perhaps a result of the poorer preparation of the freshmen class. Thus, although the scholarships appeared to encourage students to strive for more prestigious universities than they might otherwise have attended, the lower retention rate suggests that for many students these decisions may not have been the right ones.

Given these results, it is worth asking whether the scholarship program, as it currently exists, represents wise public policy. Should the state continue to subsidize the college tuition of relatively affluent students? Or could the state target the aid to underserved groups in ways that would more efficiently enhance access to college for low-income, higher-ability students?

Our findings also suggest that it is worth taking a close look at the scholarship program's effects on Native Americans. In contrast to other groups, Native Americans increased their share of high ability students, especially in lower income groups. Their retention rates also rose in response to the scholarship. More research might shed light on why NM Success appears to be increasing college access for that group, and might suggest ways that the program can produce similar effects for others as well.

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CHAPTER 4

RACE AND THE EFFECTS OF GEORGIA'S HOPE SCHOLARSHIP

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INTRODUCTION AND PROGRAM OVERVIEW

Until the early 1990s, merit aid represented a relatively small fraction of total student aid, being largely confined to individual institutions' attempts to attract academically proficient students. In the late 1990s, institutions and state governments dramatically increased merit aid, a trend that has continued unabated (McPherson & Schapiro, 1998). The largest and most prominent merit-aid program in the nation was started in September 1993, when Georgia instituted a lottery-funded college scholarship for the purpose of "Helping Outstanding Pupils Educationally" (HOPE). Between its inception and June 2001, over $1.4 billion was distributed to about 625,000 students through HOPE.[1] In size and scope, HOPE is now roughly twice as large as the federal Pell Grant program in Georgia. In 1998-99, over $189 million in scholarship funds were awarded to 141,000 Georgia undergraduates, compared with only $113 million in Pell aid to 62,000 recipients.

The HOPE program consists of two types of awards—the merit-based HOPE Scholarship and the HOPE Grant. To qualify for the Scholarship, which can be applied to 103 public and private colleges and universities in Georgia, students must graduate with a "B" average from a Georgia high school.[2] There is no income cap.[3] For HOPE Scholars in degree-granting public institutions, the program covers full tuition, HOPE-approved mandatory fees and a book allowance; the value of the award is about $3,500 at the state's flagship institutions for the 2001-02 academic year. HOPE Scholars in private, degree-granting institutions receive a standard award of $3,000 per academic year toward tuition. Once in college, students must maintain a "B" average with a minimum number of credits to retain the award.

In contrast, the HOPE Grant is essentially an entitlement; eligibility does not depend on high-school grade-point average. Eligibility for the HOPE Grant applies only to non-degree programs at two-year and less-than-two-year schools. The grant covers tuition and HOPE-approved mandatory fees, and students may receive the grant to pay for all coursework required by the institution for a program of study leading to a certificate or diploma. Thus, the incentives related to merit aid do not apply to technical institutions that primarily offer diplomas and certificates.

Although the number of HOPE awards has been evenly divided between scholarships and grants, scholarships account for 77.5 percent of all aid disbursed (Table 4-1). Just over 72 percent of HOPE Scholars attended four-year public institutions; these students were awarded 77 percent of all scholarship aid. Another 8.4 percent took their scholarships to four-year private colleges, which collected 12.5 percent of the scholarship funds. Thus, four-year public and private schools together enrolled more than 80 percent of HOPE Scholars and received almost 90 percent of all merit-based aid. About 88 percent of the merit-aid winners attend state-supported institutions, 10 percent attend private institutions, and the rest attend technical schools. By contrast, the overwhelming majority of students receiving the HOPE Grant (95.4 percent) and nearly all the dollars (93.0 percent) go to technical schools. Only 4.6 percent of the awards at state system and private colleges were non-merit grants.

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[1] The cumulative number of HOPE recipients and value of scholarship awards since the program's inception is available from http://www.gsfc.org/gsfc/html_summary_grant_all_cov_H.htm. Because transfer students are duplicated in the number of HOPE recipients, they must be subtracted from the website total to obtain the number of unique recipients.

[2] HOPE requirements have changed for high-school classes that graduated in 2000 and later. Previously, the grade-point average requirement was defined in terms of college preparatory courses. Now, to receive HOPE, high-school students must have a "B" average in the strictly academic courses that make up the "core-curriculum."

[3] In the first year of the program, there was a household income cap of $66,000. This cap was raised to $100,000 the following year and eliminated entirely thereafter.

Table 4-1: Students Served by HOPE and Amounts Spent, by Institution Type, 1993-99

HOPE Component by Institution	Number of Students (% of Total)	Aid Amount in Millions of $ (% of Total)
HOPE Program Total (Scholarship and Grant)	721,246	844.25
HOPE Scholarship Total	356,454	654.13
	(49.4)	(77.5)
Public, 4-year	257,211	503.71
	(72.1)	(77.0)
Public, 2-year	56,829	50.83
	(15.9)	(7.8)
Technical Schools[a]	6,459	4.02
	(1.8)	(0.6)
Private, 4-year[b]	30,098	81.67
	(8.4)	(12.5)
Private, 2-year[b]	5,857	13.90
	(1.6)	(2.1)
HOPE Grant Total	364,792	190.12
	(50.6)	(22.5)
Technical Schools[a]	348,104	176.67
	(95.4)	(93.0)
All Others[c]	16,688	13.45
	(4.6)	(7.0)

Notes: [a] Of the 34 HOPE-eligible technical schools, 13 offer Associate's Degrees, and therefore can award both the scholarship and grant.

[b] Private two-year and four-year schools were eligible to participate only from 1996.

[c] A few public, four-year and two-year institutions also offer technical certificates and diplomas.

Source: Georgia Student Finance Commission, www.gsfc.org.

The share of resources allocated to the scholarship component of the program is growing. Between 1993 and 1999, the number of HOPE-eligible high-school graduates rose over 50 percent, from 29,840 to 45,149, and the proportion of high-school graduates satisfying the merit requirements increased from 48 percent to almost 65 percent. At the same time, the proportion of HOPE-eligible high-school graduates enrolling in Georgia institutions grew from 23 percent to 70 percent. This dramatic rise indicates that HOPE has created a powerful incentive for students to remain in state when attending college.

Because all students, including students from middle and upper-income households, are eligible for HOPE, the program enjoys widespread support. The popular appeal of HOPE has led Georgia's neighboring states, Alabama, Florida, South Carolina and Tennessee, and many others to adopt or propose merit-based scholarships of their own, usually with lottery funding like Georgia.[4] President Clinton designated Georgia's HOPE Scholarship as the model for the federal HOPE tuition tax credit.

This chapter summarizes the effects of HOPE on college enrollments in Georgia, paying particular attention to the program's influence by institution type and race. In addition, the chapter shows how HOPE may be encouraging student sorting by race and ability and thus increasing the stratification of Georgia colleges and universities along these lines. Finally, the chapter contrasts program beneficiaries with those who pay for the scholarship by analyzing the characteristics of Georgia lottery players.

HOPE'S EFFECT ON TOTAL ENROLLMENTS

Total enrollments in Georgia colleges and universities have increased due to HOPE. Comparing the enrollment rate in Georgia—measured as ratio of first-time freshmen to recent high-school graduates—with those of the other 14 member states of the Southern Regional Educational Board (SREB) during the years before and after the program's inception, and controlling for differences among the states in income, wages, and tuition rates, we find that HOPE increased the first-time-freshmen enrollment rate in Georgia by six percentage points (or an eight percent increase) relative to the rest of the SREB (Cornwell, Mustard, & Sridhar, 2002). While this six-percentage point gain is significant, it is less an expansion of *access* (making college affordable for those who would otherwise be unable to go) than a change in *college choice* (influencing where someone who is planning to attend college actually enrolls).

Clearly, the incentives created by the HOPE scholarship affect different students in different ways (Figure 4-1). HOPE both creates incentives for some students to stay in Georgia for college while simultaneously inducing others to leave the state (the in-state–out-of-state decision, labeled A in Figure 4-1). The incentive to stay in state is greatest for the academically proficient who, with HOPE, face in-state public and private college prices that are reduced relative to their out-of-state counterparts. The impact of this change should be realized almost exclusively at four-year institutions, because students who attend two-year schools rarely cross state lines to do so. If the "best and brightest" remain in Georgia for their college education, entrance requirements may rise at the top universities in the state. Consequently, students who are denied admission at the flagship schools and who do not view the state's less selective four-year colleges as good alternatives may attend college out of state.

Because tuition is higher at four-year colleges, HOPE also reduces their price relative to two-year schools (B in Figure 4-1). Therefore, some HOPE-eligible students who would have otherwise enrolled in a two-year or less-than-two-year college will pursue a four-year degree instead. As with the in-state–out-of-state decision, HOPE might influence movement between two-year and four-year schools in both directions. Rising academic standards at the best schools may drive some students out-of-state and induce others to start their postsecondary schooling at a two-year institution.

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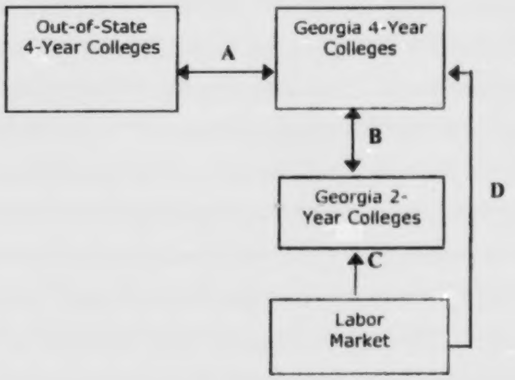
[4] See in the Introduction to this volume for more about national trends in state merit scholarships.

Figure 4-1: Margins Affected by HOPE-Induced Changes in Relative Prices

Source: Cornwell, Mustard and Sridhar (2002).



For some students, HOPE may affect *access*. Individuals whose labor-market alternatives compete directly with college attendance characterize the program's potential for expanding access (C and D in Figure 4-1).[5] By examining the effect of HOPE on each type of institution and the interstate migration patterns in college attendance, we can give a rough accounting of the six-percentage point overall increase in enrollment-rate in terms of *access* and *choice*.

HOPE'S EFFECT BY INSTITUTION TYPE

Data from the different types of postsecondary institutions show that virtually all of the six-percentage point increase in Georgia enrollments has been realized in four-year public and private schools, with each accounting for about half of the increase (Table 4-2). Enrollment rates in two-year schools showed no net change—individuals who would have otherwise entered the labor market filled the seats vacated by students pursuing two-year degrees. However, the schooling costs of any new two-year-school enrollees were likely financed by the HOPE Grant, which applies exclusively to non-degree programs at two-year institutions and has no merit requirements. Had it not been for the grant, the enrollment rates in two-year institutions would likely have decreased.

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[5] However, it is important to recognize that not all students weighing the decision of whether to continue their schooling or enter the labor market are unable to afford college. Thus, to the extent HOPE induces college attendance by such students, this effect would have to be considered an upper bound of scholarships influence on access.

Table 4-2: HOPE Effect by Institution Type, 1993-97

Type of Institution	Pre-HOPE Average Enrollment Rate	Estimated Increase in Enrollment Rate Due to HOPE	Implied Percentage Change in the Enrollment Rate
All Institutions	0.76	0.06	8%
Public, 4-year	0.32	0.03	10%
Private, 4-year	0.14	0.03	20%
Public, 2-year	0.24	-	-

Note: Enrollment rates are measured by the ratio of first-time freshmen to recent high-school graduates.

Source: Cornwell, Mustard and Sridhar (2002).

Further, most of the rise in enrollments at four-year schools represents a shift from out-of-state to in-state institutions. Between the fall of 1992, the year prior to HOPE's introduction, and the fall of 1994, the number of Georgia residents attending college out-of-state fell over 20 percent in the top-twenty out-of-state destinations and fell 8 percent in all out-of-state institutions (Table 4-3).

Table 4-3: The Top-20 Out-of-State Institutions for Georgia Residents

Institution (State)	1992	1994	1996	1998
Auburn University (AL)	480	459	395	490
University of Alabama (AL)	195	141	125	173
Jacksonville State University (AL)	198	121	127	89
Furman University (SC)	166	143	142	122
Florida A&M (FL) (HBCU)	146	90	124	137
Samford University (AL)	135	107	132	102
Vanderbilt University (TN)	135	117	124	96
Presbyterian College (SC)	128	84	75	59
Alabama State University (AL) (HBCU)	121	74	82	62
Clemson University (SC)	116	82	112	141
Florida State University (FL)	104	118	117	140
Tuskegee University (AL) (HBCU)	85	76	91	58
University of Mississippi (MS)	83	83	54	78
University of Florida (FL)	80	49	43	36
University of Tennessee-Chattanooga (TN)	77	49	41	36
Troy State University (AL)	67	44	32	35
Alabama A&M (AL) (HBCU)	66	49	53	40
University of Tennessee (TN)	65	69	88	112
Hampton University (VA) (HBCU)	65	30	14	42
Wake Forest University (NC)	64	63	54	68
TOTAL IN TOP-20	2533	2022	2097	2116
TOTAL IN HBCUs	483	319	364	339
TOTAL OUT-MIGRATION	7597	6972	7027	7689

Note: Based on 1992 Freshmen Enrollment. (HBCU) designates that the institution is a Historically Black College or University. Where an institution has multiple campuses, the institution is the main campus unless otherwise indicated.

Source: Cornwell, Mustard and Sridhar (2002).

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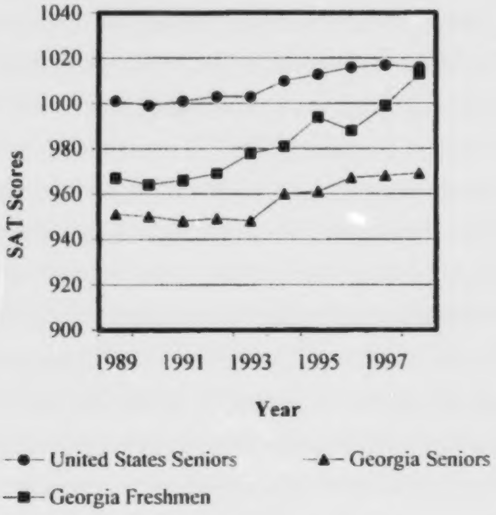
A measure of the net effect of the incentive for in-state enrollment can be obtained from the ratio of students attending Georgia institutions (from any state of residence) to Georgia residents attending college (in any state). This ratio is almost exactly 1 in the pre-HOPE period; the number of out-of-state students enrolling in Georgia institutions equaled the number of Georgia residents enrolling in out-of-state schools. After the inception of HOPE, however, this ratio increased to 1.04, implying that four of the six-percentage point total increase in enrollment attributable to HOPE is due to the scholarship's influence on the in-state–out-of-state decision. Together with the evidence that many of the scholarship recipients are students who chose to attend four-year, rather than two-year institutions, and that many of the spaces in two-year institutions were filled by students who received HOPE grants, this ratio implies that, *at most*, one-third of the overall increase in enrollment associated with the HOPE scholarship represents an expansion of access.

HOPE'S EFFECT ON STUDENT QUALITY AND COLLEGE SELECTIVITY

The shift in enrollment from out-of-state to in-state colleges and from two-year to four-year institutions has changed the characteristics of students enrolled at Georgia universities. As measured by SAT scores, the freshmen class in Georgia colleges and universities became substantially better prepared during the 1990s (Figure 4-2). In 1989, the average SAT of high school seniors nationally was 1000, approximately 35 points higher than the average score for Georgia college freshman average and 50 points higher than the average for Georgia high school seniors. By 1998, the national average had risen 20 points, to 1020. But during that period, the average SAT score for Georgia college freshmen rose 50 points, making them even with the national average.

Figure 4-2: SAT Scores in Georgia and the US, 1989-90 to 1998-99

Source: Cornwell, Mustard and Sridhar (2002).



As student quality has risen, Georgia institutions have become more attractive to the very top high-school graduates in the state. In 1993, only 23 percent of Georgia high school graduates with SAT scores over 1500 matriculated at a Georgia college or university; now the rate is up to 76 percent. Consequently, the state's top universities have been able to raise admissions standards. This is especially true at the state's flagship school, the University of Georgia. During most of the 1980s, Barron's *Profiles of American Colleges* rated the University of Georgia's admissions selectivity as merely "competitive," the fourth highest out of six categories. By 1997, Georgia's selectivity rating had climbed to "highly competitive," the second highest category (which includes elite public universities like the University of North Carolina).

This dramatic increase in SAT scores is not only evidence of HOPE's incentive for high-achievers to remain in-state, but it also explains the jump between 1996-98 in the number of Georgia residents attending Auburn University (an increase of 24 percent), the University of Alabama (38 percent), Clemson University (26 percent), Florida State University (20 percent), the University of Mississippi (44 percent) and the University of Tennessee (27 percent). Notably, these out-of-state universities, while sharing the characteristics of a large state school with the University of Georgia, are now all listed below it in Barron's selectivity index. This suggests that affluent students who no longer qualify for the University of Georgia's increasingly stringent requirements are choosing to attend these out-of-state colleges, rather than in-state institutions that are considered less prestigious. A recent Georgia high-school graduate who was not eligible for admission to the University of Georgia with an 1150 SAT score and a high-school grade-point average of 3.4 puts it this way: "As a result of the HOPE Scholarship, above-average-but-not-quite-outstanding students are handing over the dough to schools like Auburn, Tennessee, Clemson, Alabama, Ole Miss and other large universities throughout the South" (Roberts, 2001).

HOPE'S EFFECT ON WHITE AND BLACK ENROLLMENT RATES

At a time when the issue of access to college for blacks is a particular concern, understanding how HOPE affects black enrollments is important.[6] Yet we find that, as with the overall trends in enrollment, the scholarship program appears to have had a substantially greater influence on college choice than on college access for blacks.

Between 1993 and 1997, HOPE raised the enrollment rates of blacks at four-year public and private colleges by 21 percent and 16 percent, respectively. This exceeds the effect for whites, whose enrollment rates went up by 5 percent in four-year public institutions and by 12 percent in four-year private institutions (Table 4-4)[7]. The difference is partly explained by the fact that blacks have much lower enrollment rates to begin with, and therefore, a relatively small increase in enrollment rates can account for a relatively large percentage change. In addition, Georgia is home to a large number of historically black colleges and universities (HBCUs), which amplifies HOPE's incentive to remain in state for blacks.

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[6] Our findings are limited to whites and blacks, because the National Center on Education Statistics (NCES) data do not provide the statistical power necessary to analyze the enrollment of students from other racial and ethnic groups.

[7] The results for enrollment rates by race use a slightly different measure than the effects by institution type in Table 4-2. Because the NCES does not provide annual data on recent high school graduates by race, the enrollment rates by race use the eligible population of 18- and 19-year-olds.

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Table 4-4: HOPE Effect by Race

Type of Institution	Pre-HOPE Average Enrollment	Estimated Increase in Enrollment Due to HOPE	Implied Percentage Change in the Enrollment Rate
Public 4-year			
All Races	0.099	0.008	8%
White	0.115	0.006	5%
Black	0.065	0.013	21%
Private 4-year			
All Races	0.045	0.008	17%
White	0.039	0.005	12%
Black	0.060	0.010	16%

Note: Enrollment rates are measured by the ratio of first-time freshmen to 18- and 19-year-olds.

Source: Cornwell, Mustard and Sridhar (2002).

To what else do we attribute the large percentage increase in black enrollment in Georgia institutions? Has HOPE significantly expanded access to higher education in Georgia? The data show that this is unlikely. For both whites and blacks, the increases in enrollments represent students who would have attended an out-of-state college absent HOPE.[8] Between the fall of 1992, the year prior to HOPE's introduction, and the fall of 1994, the number of Georgia residents attending college out-of-state fell over 20 percent in the top-20 out-of-state destinations and fell 8 percent in all out-of-state institutions. Five of the top 20 out-of-state destinations for Georgia students are HBCUs (Florida A&M University, Alabama State University, Tuskegee University, Alabama A&M University, and Hampton University). Between 1992 and 1994, enrollments of Georgia freshmen at these five institutions dropped 34 percent.

Further, the increases in black enrollments have generally occurred at the state's less selective schools, principally Georgia's HBCUs, all but one rated by Barron's as "less competitive," the fifth of the six ranking categories (Table 4-5). There has been no corresponding increase in black enrollment at the state's more selective institutions, the University of Georgia and Georgia Institute of Technology. Bugler, Henry and Rubenstein (1999) reported that the average black fraction of first-year, in-state enrollments in *all* state postsecondary institutions was 18 percent over the 1988-92 period. Between 1993 and 1998, the average share rose to 22 percent. In contrast, the black share of freshmen enrollments at the state's most selective institutions, the University of Georgia and Georgia Tech, has fallen during the HOPE period (Figure 4-3). At the University of Georgia, which has experienced the largest increase in SAT scores of entering students, the percentage of blacks in the freshmen has class dropped sharply since 1995.

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[8] This is consistent with Dynarski's findings (presented in chapter 5) that HOPE has *not* increased college attendance among black Georgia *residents*.

Table 4-5: Barron's Selectivity Index Ratings of Georgia HBCUs

Institution Name	1999 Barron's Selectivity Index Rating
Public	
Albany State University	Less Competitive
Fort Valley State University	Less Competitive
Savannah State University	Less Competitive
Private	
Clark Atlanta University	Less Competitive
Morehouse College	Competitive
Morris Brown College	Less Competitive
Paine College	Less Competitive
Spelman College	Less Competitive

Note: There are six Barron's Selectivity Index Ratings: Most Competitive, Highly Competitive, Very Competitive, Competitive, Less Competitive and non-Competitive.

Source: *Profiles of American Colleges* (24th ed.). (2001). Hauppauge, NY: Barron's Educational Series, Inc.

As suggested by the data in Figure 4-3, by making it more difficult to gain entry at the state's best schools, HOPE may be exacerbating the racial stratification of Georgia colleges and universities. This can have serious social consequences, because of the effect of schooling quality on economic success. Narrowing the racial differences in the level and quality of educational attainment has substantially reduced wage inequality between blacks and whites between 1940 and the late 1970s (O'Neil, 1990) and in the 1990s (Couch & Daly, 2002). By targeting financial aid to academically proficient students who are more likely to come from middle- and upper-income households, HOPE may be impeding further progress in narrowing wage inequality.

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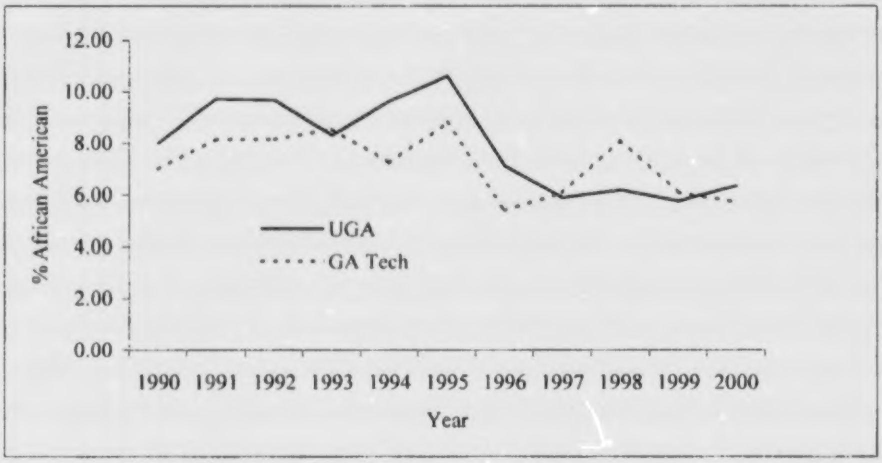
Figure 4-3: Percent of Freshmen at UGA and Georgia Tech who are Black, 1990-2000

Source: NCES Integrated Postsecondary Education Data System (IPEDS). Annual enrollment data by race are available from IPEDS since 1990.



WHO PAYS FOR HOPE?

If middle- and upper-income households are the primary beneficiaries of the HOPE Scholarship, who bears the costs? Since HOPE is financed by a state lottery, the obvious answer to this question is, "lottery players." But who are they? The literature is remarkably consistent: lottery players are disproportionately low-income, poorly educated, and black. As a result, lotteries are a regressive form of taxation, one that places a greater burden on lower-income families than on more affluent families.[9] Recognizing this feature of the lotteries, the National Gambling Impact Study Commission (1999) recommended, "States with lotteries reduce their sales dependence on low-income neighborhoods" (pp. 3-19).

Compared with the other 37 state lotteries, Georgia's is widely recognized as one of the most successful. It is the only lottery that increased revenue in each of its first seven years, and it has the second highest per capita sales of any lottery in the nation. Revenue was $1.12 billion in fiscal year FY94, $1.42 billion in FY95, $1.59 billion in FY96, $1.72 billion in FY97, $1.74 billion in FY98 and $2.03 billion in FY99.[10] By 1997, per capita sales were $238 per person, trailing only those of Massachusetts (National Gambling Impact Study Commission, 1999).

While Georgia's lottery might be distinguished in terms of its success in generating revenue, Cornwell and Mustard (2002) show that the typical player is very similar to that of lotteries in other states. Per capita sales, by county, decrease as the income level of the county increases; the typical county in the top quintile of the income distribution contributed about $90 less per person per year than the average bottom-quintile county (Table 4-6). In terms of the fraction of income spent on lottery tickets, the disparities are even larger: the share in the lowest-income quintile (1.88 percent of income) is more than twice that of the highest-income quintile (0.86 percent of income).

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[9] The evidence for regressivity comes from survey data in Pennsylvania (Spiro, 1974), Connecticut and Massachusetts (Brinner & Clotfelter, 1975), California (Clotfelter & Cook, 1987), Canada (Livernois, 1987, Vaillancourt & Grignon, 1988), Illinois (Borg & Mason, 1988) and Texas (Price & Novak, 2000); and aggregate data in Pennsylvania (Heavey, 1978), Massachusetts (Brinner & Clotfelter, 1975), Maryland (Clotfelter, 1979), Michigan (Brinner & Clotfelter, 1975), and Colorado (Hansen, 1995).

[10] Georgia's fiscal years run from July 1 to June 30.

Similarly, residents of counties with high concentrations of blacks are much more likely to buy lottery tickets than those in counties with relatively few blacks (Table 4-7). Sales in the counties with less than a 36.1 percent black population averaged about $200 per person. By contrast, counties that are more than 46.6 percent black spent on average $402 a year, twice the rate of those in the bottom three quintiles.

Table 4-6: Lottery Sales by County Income Quintile, 1998 data

Variable	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
	<$17,445	$17,445-18,745	$18,746-19,953	$19,954-21,900	>$21,900
Lottery Sales Per Capita	$308.41	$273.91	$220.03	$233.91	$218.93
Ave. Per Capita Income	16,369	18,087	19,212	20,928	25,399
Ave. Sales as % of Ave. PCI	1.88%	1.51%	1.15%	1.12%	0.86%
Number of Counties	32	32	31	32	32

Note: All income variables are in real dollars calculated using the Consumer Price Index with 1998 as the base year.
Source: Cornwell and Mustard (2002).

Table 4-7: Lottery Sales by County Percentage Black Quintile, 1998 data

Variable	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
	< 11.50%	11.50-28.00%	28.01-36.10%	36.11-46.60%	>46.60%
Lottery Sales Per Capita	$200.74	$201.24	$200.10	$250.12	$402.37
Number of Counties	32	32	31	32	32

Source: Cornwell and Mustard (2002).

The patterns of spending on lottery tickets can be seen graphically on a map of Georgia (Figure 4-4). Lottery sales as a percent of income are highest on the borders and in the band of counties across central Georgia, areas that are disproportionately black. The largest cluster of counties with low lottery sales as a percent of income is in the north, in the areas with relatively high personal income.

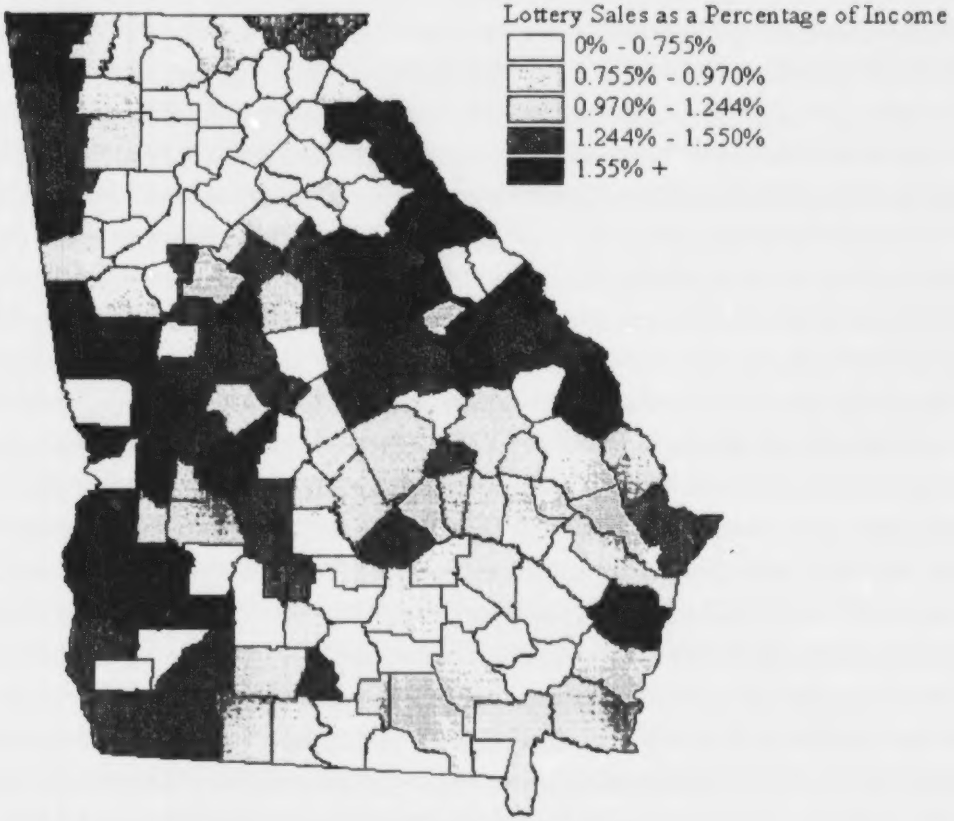

Figure 4-4: Lottery Sales as a Percentage of Income by County

Source: Cornwell and Mustard (2002).

CONCLUSION

In the first five years of the program, Georgia's HOPE Scholarship raised the freshman enrollment rate about eight percent relative to the enrollment rates of other member states of the SREB. This gain was realized primarily at four-year institutions, a pattern that held for both whites and blacks, although the percentage increase for blacks was higher. The relatively large response in the enrollment rate for blacks at four-year schools is due, in large part, to the presence of several popular HBCUs in Georgia. Two-thirds of the total enrollment rate rise can be explained by the scholarship's incentive to remain in state, leaving *at most* one-third that can be attributed to an expansion of access. For blacks, Georgia's HBCUs amplify the HOPE discount for in-state schools.

By encouraging the academically proficient to stay home for college, HOPE has increased the quality (as measured by SAT scores) of students enrolled at Georgia colleges and universities. Since HOPE began, the average SAT score of Georgia college freshmen rose almost

40 points. As average student quality has improved, the state's flagship universities, the University of Georgia and Georgia Tech, have become increasingly more selective. As a result, some students, who in the past would have been admitted to these institutions, now either enroll in one of the state's less prestigious schools or pursue their educations outside the state. Thus, HOPE may exacerbate student sorting by ability and race (to the extent black test scores lag behind those of whites), leading Georgia colleges to become increasingly stratified along these lines.

Finally, since the program is financed by a state lottery, its costs are disproportionately borne by lower-income and black families, who spend a larger share of their incomes on the lottery than more affluent and white families. However, because high-school academic achievement and family income are positively correlated, the HOPE Scholarship tends to benefit students from middle- and upper-income households. Overall, the primary role of the scholarship has been to influence where, not whether high-school students attend college, but only a small fraction of HOPE expenditures affects college-going behavior at all. Over the first five years of the program, we estimate that HOPE raised total freshmen enrollment by about 3800 students, which accounts for only about 4 percent of all freshmen awards during this period. This indicates that 96 percent of HOPE expenditures had no impact on expanding college access in the state.

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CHAPTER 5

RACE, INCOME, AND THE IMPACT OF MERIT AID

◆

Susan Dynarski

INTRODUCTION

The once-limited role of the public sector in awarding merit aid has expanded dramatically over the last decade. Since the early 1990s, more than a dozen states have established broad-based merit aid programs. The new merit programs require relatively modest academic performance in high school and provide scholarships to hundreds of thousands of students. Many require a high school grade point average of 3.0 or above, not a particularly high threshold: in 1999, 40 percent of high school seniors met this standard.[1] This new breed of merit aid differs from the old style in both its breadth and, plausibly, its effect on students' decisions. The old style of merit aid was aimed at top students whose decision to attend college is not likely contingent upon the receipt of a scholarship. By design, if not by intent, this elite form of merit aid goes to students whose operative decision is not whether to attend college, but which high-quality, four-year college to choose. By contrast, the new, broad-based merit aid programs are open to students with solid, but not necessarily exemplary, academic records. These students may be uncertain about whether to go to college at all. When offered a well-publicized, generous scholarship – the typical program pays full tuition and fees at public colleges – some of these students may decide to give college a try. For those who would have gone to college even without the scholarship, some may choose a four-year school over a two-year school, or a private school over a public school.

A typical example of this new breed of merit aid is Georgia's HOPE (Helping Outstanding Pupils Educationally) Scholarship. The HOPE Scholarship waives tuition and fees at Georgia's public colleges and universities for those residents who have recently graduated high school with a GPA of 3.0 or higher. Seventy-five thousand scholarships were awarded in the academic year 2000-01. To get a sense of the breadth of HOPE's impact, note that almost all freshmen at the University of Georgia receive a HOPE Scholarship.

How does this new breed of student aid affect schooling decisions? Does merit aid increase college attendance or do the new programs simply transfer funds to students who would have attended college anyway? Further, does merit aid affect the choice of college? We have little evidence with which to answer these questions. In this chapter, I study the impact of merit aid by evaluating the Georgia HOPE Scholarship, the inspiration for many of the new state programs.[2] Using a set of nearby states as a comparison group, I conclude that Georgia's program has increased college attendance rates among the state's 18- to 19-year-olds by 7.0 to 7.9 percentage points. HOPE has also influenced *where* students attend college. I find that HOPE has both increased the likelihood that Georgia students will attend college in their home state and shifted them toward four-year institutions.

I particularly focus on how the effect of HOPE has varied by race and income.[3] I focus on this distributional impact of merit aid for two reasons. First, merit aid is awarded based upon performance in the classroom and on standardized tests. For both of these outcomes, low-income, black and Hispanic students have traditionally fared relatively poorly. For example, only 15 percent of blacks and Hispanic high school students have at least a 3.0 GPA, while 40 percent of all students meet this standard (author's calculations from Bureau of Labor Statistics, 1999). Similarly, racial and ethnic gaps in standardized tests scores are well documented (see discussion in Chapter 2). As a result, black and Hispanic students are less likely than whites to be eligible for the new merit aid programs. Second, provisions that govern the distribution of some states' merit aid programs intensify this distributional impact. Until recently, for example, Georgia reduced each student's HOPE Scholarship dollar-for-dollar by any need-based aid that she received. Many low-income students that managed to clear the requisite academic hurdles therefore found their efforts unrewarded by HOPE.

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[1] Author's calculations from the 1997 National Longitudinal Survey of Youth (Bureau of Labor Statistics, 1999). As I will discuss later in the paper, this figure varies quite dramatically by race and ethnicity.

[2] The empirical analysis is drawn from Dynarski (1999, 2000). These papers provide greater detail on both HOPE and the empirical methodology.

[3] Since there is a large black population in Georgia, I have enough statistical power to examine separately the program's effect on this group. By contrast, there are too few Hispanics, Native Americans, or Asians in the data to allow for any informative analysis of the differential response of these groups.

GEORGIA'S HOPE SCHOLARSHIP

In 1991, Georgia Governor Zell Miller requested that the state's General Assembly consider the establishment of a state-run lottery, with the proceeds to be devoted to education. The Georgia General Assembly passed lottery-enabling legislation during its 1992 session and forwarded the issue to voters, who approved the required amendment to the state's constitution in November of 1992. The first lottery tickets were sold in June of 1993 and the first scholarships disbursed in the fall of 1993. Participation in HOPE during its first year was limited to those with family incomes below $66,000; the income cap was raised to $100,000 in 1994 and eliminated in 1995 after lottery revenues exceeded expectations. Since 1993, $3.0 billion in lottery revenue has flowed into Georgia's postsecondary educational institutions.

Those who have graduated from a Georgia high school since 1993 with at least a 3.0 grade point average are eligible for HOPE.[4] The high school GPA requirement is waived for those enrolled in certificate programs at technical institutes. HOPE pays for tuition and required fees at Georgia's public colleges and universities. Those attending private colleges are eligible for an annual grant, which was $500 in 1993 and had increased to $3,000 by 1996. Public college students must maintain a GPA of 3.0 to keep the scholarship; a similar requirement was introduced for private school students in 1996.

Until 2001, the state required that other grants, such as federal Pell Grants or private scholarships, be subtracted from the HOPE award. Needy students eligible for the large Pell Grant received no HOPE Scholarship, except for a yearly book allowance of $400. Georgia education officials were concerned that students would stop applying for federal aid once the HOPE Scholarship was available, and therefore required that students from families with incomes lower than $50,000 complete the four-page Free Application for Federal Student Aid (FAFSA), when applying for HOPE.[5] Those with family incomes above $50,000 fill out a short, one-page form that requires no information about finances other than a confirmation that family income is indeed above the cutoff. The perverse impact of these requirements is that lower-income students have to complete much more complicated forms to get aid than do their well-off counterparts.[6]

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[4] For high school seniors graduating after 2000, only courses in English, math, social studies, science and foreign languages will count toward the GPA requirement.

[5] The rationale for the $50,000 income threshold was that few students above that cutoff are eligible for need-based federal aid. In 1995, only 3.7 percent of dependent students from families with incomes over $40,000 received federal grant aid, while 57 percent of those from families with income under $20,000 did so (National Center for Education Statistics, 1998).

[6] Further, because of the elimination of Georgia's need-based State Student Incentive Grants (SSIGs), some low-income students have actually seen their state aid reduced slightly since HOPE was introduced (Heller, 2002).

In 1998-99, 140,000 students received $189 million from the HOPE program. Fifty-four percent of those students attended a two- or four-year college, while the balance attended a technical institute. A greater proportion of spending (81 percent) goes to the students at two- and four-year schools, however, since their tuitions are substantially higher than those of the technical institutes. Georgia politicians have deemed HOPE a great success, pointing to the steady rise in the number of college students receiving HOPE. The key question is whether the program is actually increasing college attendance or simply subsidizing students who would have attended college even in the absence of HOPE. In the next section, I discuss the data and empirical strategy I use to answer this question.

DATA AND EMPIRICAL METHODOLOGY

The data for the analysis are the October Current Population Survey (U.S. Department of Commerce, various years) and the Integrated Postsecondary Education Data System (U.S. Department of Education, various years). The CPS is a monthly, national household survey that each October gathers detailed information about schooling enrollment. IPEDS integrates into a single data set information from a variety of surveys of postsecondary institutions conducted by the U.S. Department of Education.

The empirical approach of the paper is straightforward. In order to estimate the effect of the HOPE Scholarship, I examine how the college attendance rate of young people in Georgia changed after HOPE was introduced.[7] A confounding factor is that there are secular changes in schooling occurring over the same period. For example, if college attendance rates in the U.S. are rising over this period, we should not attribute all of an increase in Georgia's schooling to HOPE. Instead, we want to net out any secular shifts in schooling. I do so by comparing changes in Georgia to changes in a comparison group of states. Any shift in schooling in Georgia *relative* to shifts in these other states is then attributed to the HOPE Scholarship. This methodology is called *differences-in-differences*. A natural comparison group is the other states in the South Atlantic and East South Central Census Divisions: Alabama, Delaware, the District of Columbia, Florida, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia.

THE EFFECT OF HOPE ON SCHOOLING DECISIONS

A comparison of college attendance rates for youth who are residents of Georgia and those from the rest of the Southeast, before and after the Georgia HOPE Scholarship was introduced in 1993, suggests that HOPE had an effect (Table 5-1). Previous to the introduction of HOPE, the enrollment rate of Georgia's 18- to 19-year-olds was relatively low: 30.0 percent, as compared to 41.5 percent in the rest of the Southeast. After HOPE was introduced, the enrollment rate in the rest of the Southeast did not change appreciably, dropping by just 0.1 percentage point. However, the Georgia enrollment rate rose sharply to 37.8 percent, an increase of 7.8 percentage points. The difference in the changes in Georgia and the rest of the Southeast is the difference-in-differences estimate of the effect of HOPE: 7.9 percentage points [=7.8-(-0.1)]. The estimate indicates that HOPE nearly closed the gap between Georgia and the rest of the Southeast in college attendance. Controlling for factors that might affect college attendance, such as residence in a metropolitan area, race, and age, does not affect this conclusion (Column 2, Table 5-2).

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[7] In the empirical analysis, I focus on the college attendance rate of all 18- to 19-year-olds. I do not limit the sample to high school graduates because the availability of aid for college could affect the high school graduation rate. In this case, limiting the analysis to only high school graduates would bias the estimates.

Table 5-1: HOPE's Effect on the College Attendance Rate of 18- to 19-Year-Olds

	Before 1993 Pre-HOPE	1993 and After Post-HOPE	Difference
	All		
Georgia	0.300	0.378	0.078
Rest of Southeastern States	0.415	0.414	-0.001
Difference	0.115	0.036	0.079
	Whites Only		
Georgia	0.339	0.461	0.122
Rest of Southeastern States	0.448	0.446	-0.002
Difference	0.109	-0.015	0.124
	Blacks Only		
Georgia	0.234	0.201	-0.033
Rest of Southeastern States	0.322	0.321	-0.001
Difference	0.088	0.120	-0.032

Note: Means are weighted by CPS sample weights.

Source: October CPS, 1989-97

We might be concerned that changing economic conditions are confounding our analysis. For example, a job shortage for young people in Georgia might drive them into college, thereby leading to an increase in the state's college attendance rate. If neighboring states did not also experience this job shortage, then we will falsely attribute the rise in college attendance to HOPE. To account for this type of economic shock, I control for the state youth unemployment rate (Column 3 in Table 5-2). The results are unaffected.

Another way to check whether Georgia specific economic shocks are driving the results is to examine whether the college attendance rate of young Georgians who are *not* eligible for HOPE increased during this period. If their attendance rate did rise, this would suggest that shifts in the Georgia economy are driving the rise in schooling rates, rather than HOPE. A good comparison group is 23- to 24-year-olds who, as of 1997, were too old to have been eligible for HOPE, since they would have graduated before the program's inception in 1993. There was no change in the college attendance of Georgia 23- to 24-year-olds relative to those in the rest of the Southeast (Column 4, Table 5-2), suggesting that Georgia-specific economic shocks are not confounding the results.[8]

Table 5-2: HOPE's Effect on the College Attendance Rate, Controlling for Demographics and Economic Conditions

	(1) *Difference-in-Differences*	(2) *Add Covariates*	(3) *Add Local Economic Conditions Controls*	(4) *Age Group **Not** Eligible for Scholarship*
	18-19 year olds	18-19 year olds	18-19 year olds	23-24 year olds
After*Georgia	0.079 (0.029)	0.075 (0.030)	0.070 (0.030)	0.007 (0.011)
Georgia	-0.115 (0.023)	-0.100 (0.019)	-0.097 (0.018)	-0.021 (0.010)
After	-0.001 (0.018)			0.009 (0.005)
Age 18		-0.042 (0.014)	-0.042 (0.016)	
Metro Resident		0.042 (0.016)	0.042 (0.015)	
Black		-0.134 (0.014)	-0.133 (0.015)	
State Unemployment Rate			0.005 (0.007)	
Year Dummies		Yes	Yes	
R^2	0.003	0.023	0.023	0.001
N	6,811	6,811	6,811	7,445

Note: Regressions are weighted by CPS sample weights. Standard errors are adjusted for heteroskedasticity and correlation within state-year cells. Comparison group is Southeastern states.

Source: October CPS, 1989-97

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[8] In 1995, HOPE was opened to those Georgians who had graduated before 1993 and completed two years of college with a 3.0 average. But since this older group has never been eligible for subsidies in their first two years of college, they still form a valid control group when the outcome is attendance at the freshman and sophomore level. The measure of college attendance used in Column 4 is therefore enrollment in the freshman or sophomore year of college.

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HOPE HAS HAD LITTLE IMPACT ON POOR YOUTH

While HOPE appears to have produced an overall increase in college attendance among Georgia youth, this increase was not shared equally among all Georgians. Higher-income youths were far more likely to increase their schooling after the introduction of HOPE than those from lower-income families. Using comparisons with other Southern states, we see that HOPE increased enrollment for youth from families with incomes above $50,000 by 11.4 percentage points. By contrast, the program appears to have had no effect at all on enrollments for Georgia youth from lower-income families (Table 5-3). As a result, in Georgia, higher-income youth increased their attendance relative to lower-income youth by 12.8 [=11.4-(-1.4)] percentage points more than they did in the other southeastern states (Table 5-3).

These results should be interpreted with some caution, as family income is known for only a select sub-sample of the data (see Appendix). As is discussed in detail in Dynarski (1999, 2000), this form of sample selection can produced biased estimates. It is likely that at least some of the observed difference across income groups in the response to HOPE is caused by this bias. However, the bias would have to be improbably large in order to negate the conclusion that HOPE has widened the income gap in college attendance in Georgia.

Table 5-3: Change in College Enrollment of 18- to 19-Year-Olds, by Income

	(1) Parents' Income > $50K	(2) Parents' Income < $50K
After*Georgia	0.114 (0.054)	-0.014 (0.062)
Georgia	-0.159 (0.041)	-0.067 (0.038)
After	-0.070 (0.030)	-0.037 (0.018)
R^2	0.009	0.004
N	1,401	3,380

Note: Regressions are weighted by CPS sample weights. Standard errors are adjusted for heteroskedasticity and correlation within state-year cells.

Source: October CPS, 1989-97

Why has HOPE had this effect? First, as was discussed earlier, the application and eligibility requirements for the HOPE scholarship vary by income. During the period under study, Georgia high school graduates with annual family incomes over $50,000 who met the high school grade requirement automatically qualified for HOPE by filling out a simple one-page form. Those with lower incomes, by contrast, applied for federal aid with a complex, four-page form and waited several months to learn the size of their grant award, which was then deducted from their HOPE scholarship. As a result, lower-income students received HOPE scholarships that were both smaller and more uncertain than those received by their better-off peers.

Second, low-income youth are less likely to meet the academic requirements of HOPE. Among high school seniors in 1993 who intended to go to college, 24.4 percent of those of high socioeconomic status (SES) had a grade point average of at least 3.5 while just 10 percent of those from low SES families had grades that high (National Center for Education Statistics, 1995). Third, Georgia reduced its spending on need-based grants in the years after HOPE was introduced. The data used in this chapter cannot tease out which of these three explanations accounts for HOPE's distributional impact, and this is an important topic for future research.[9]

HOPE HAS HAD LITTLE IMPACT ON BLACK YOUTH

Just as HOPE has had a larger impact on wealthier youth, HOPE has had a much more significant effect on whites than on blacks. College attendance among whites rose 12.4 percentage points faster from 1993 through 1997 in Georgia than in the rest of the southeastern United States (Table 5-1 and Table 5-4). By contrast, college attendance among blacks did not rise significantly in Georgia relative to the other southeastern states. This indicates that HOPE has sharply increased white schooling but had no effect or even a small negative effect on black college-going.

Table 5-4: Race and HOPE's Effect on the College Attendance Rate

	(1) Full Sample	(2) Whites	(3) Blacks
After*Georgia	0.079 (0.029)	0.123 (0.045)	-0.027 (0.052)
Georgia	-0.115 (0.023)	-0.109 (0.039)	-0.088 (0.030)
After	-0.001 (0.018)	-0.002 (0.022)	-0.000 (0.026)
R^2	0.003	0.002	0.007
N	6,811	4,974	1,837

Note: Regressions are weighted by CPS sample weights. Standard errors are adjusted for heteroskedasticity and correlation within state-year cells. Comparison group is Southeastern states.

Source: October CPS, 1989-97

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[9] Dynarski (2002b) applies the methodology used in this chapter to twelve other states' merit programs. By comparing the effect of HOPE with that of other merit programs, we can potentially isolate which aspects of HOPE are driving its distributional impact.

Why has HOPE had a larger effect on whites than on blacks? First, white families tend to have higher incomes than blacks in Georgia, just as they do in the rest of the country. In Georgia during 1989 to 1997, 94 percent of black and 62 percent of white 16- to 17-year-olds lived in families with incomes less than $50,000. The numbers for the rest of the United States are similar: 88 percent and 64 percent, respectively.[10] As the previous section discussed, lower-income youth were less likely to benefit from HOPE than their more well-off peers.

Second, blacks have lower average grades in high school, which means a smaller proportion will meet HOPE's academic requirements: nationwide, among those members of the high school class of 1992 intending to go to college, 21 percent of whites had a high school GPA of 3.5 or above, while only 4 percent of blacks had such high grades (National Center for Education Statistics, 1995). Third, blacks are less likely to meet HOPE's college GPA requirements. Sixty-four percent of freshmen who received HOPE during academic year 1997-98 lost their scholarships the following year (personal communication, Steve Thomkins of the Georgia Student Finance Commission, April 24, 1998). The college GPA requirement appears to hit blacks harder than whites. Blacks at the University of Georgia are twice as likely as whites to lose their scholarship after the freshman year (Healy, 1997). A study at the Georgia Institute of Technology also found that blacks were substantially more likely than whites to lose their scholarships, though this differential disappeared after accounting for differences in ability (as measured by SAT scores) (Dee & Jackson, 1999). As was discussed in the previous section, the data in this chapter do not allow us to disentangle whether it is the income or academic rules that drive the differential effect of HOPE on blacks and whites. However, the evidence unambiguously indicates that HOPE has widened the racial gap in college attendance in Georgia.

This finding is not inconsistent with that of Cornwell and Mustard in Chapter 4, who conclude that more blacks enrolled at Georgia's colleges after HOPE was introduced. This conclusion can easily be reconciled with my finding that HOPE has had no impact on the black attendance rate. Let us assume that the only impact of HOPE on black Georgians is that those who would have otherwise gone to college out of state instead choose to attend a Georgia school. In this case, the Cornwell and Mustard data will indicate that HOPE has increased black enrollments *in* Georgia, while the CPS data used in this chapter will indicate that there has been no increase in the attendance rate of black youth *from* Georgia. We measure different outcomes because our data are drawn from different surveys. My data measure whether youth *from* Georgia go to college (in any state), while theirs measure how many youth (from any state) attend college *in* Georgia.

HOPE HAS ALTERED COLLEGE CHOICE

A subsidy to schooling costs is likely to affect not only who goes to college but where they choose to go. Some high school students do not plan to attend college at all. HOPE may push them into college, most likely into two-year schools. Others are set on attending a two-year school. HOPE may push them toward a four-year college, by driving down its relative cost.[11]

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[10] Author's calculations from October Current Population Survey (U.S. Department of Commerce, Bureau of the Census, various years). These figures for the share with income below $50,000 may appear high. This is because the unit of observation is not the family but the child. Since lower-income families have more children, the distribution of family income within a sample of children has a lower mean than the distribution of family income within a sample of families.

[11] Two-year public colleges are generally cheaper than four-year public colleges. For those receiving the HOPE Scholarship, they are both tuition-free.

Others are set on attending a four-year school out of state. HOPE may push them to attend college within the state.[12] The net impact of HOPE on the share of college-going youth attending two-year schools is theoretically ambiguous, since students are being both pushed into and out of two-year schools by the scholarship. By contrast, it is clear that HOPE should produce an increase in the share of students at four-year schools.

Data from the University System of Georgia (USG) and federal Department of Education Integrated Postsecondary Education Data System (IPEDS) are consistent with these predicted patterns (University System of Georgia, various years; U.S. Department of Education, various years). The number of students from Georgia attending two-year institutions in the state began to drop during HOPE's first year of operation after several years of increases (Figure 5-1). The decrease continued through 1999, when it bounced back slightly. By contrast, the number of students from Georgia attending four-year schools rose after HOPE was introduced, continuing growth begun in the pre-HOPE period (Figure 5-2). This set of graphs suggests that the HOPE had a greater impact on college choice than college access, pushing more students from two-year schools into four-year schools than into two-year schools from no college at all.[13]

Data from IPEDS also suggest that HOPE has encouraged Georgia residents who would have attended college out of state to instead stay in Georgia. In 1992, about 5,000 Georgians were freshmen at two- and four-year colleges in the states that border Georgia. This represented an average of 3.4 percent of the border states' freshmen enrollment. By 1998, 4,500 Georgians crossed state lines to enter college in the border states, accounting for an average of 2.9 percent of freshmen enrollment in those states. This drop in migration was concentrated in a group of border schools that have traditionally drawn large numbers of Georgians. At the ten schools drawing the most Georgia freshmen in 1992, students from that state numbered 1,900 and averaged 17 percent of the freshman class. By 1998, the ten top destinations enrolled 1,700 Georgians, who represented 9 percent of freshman enrollment.

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[12] Students at four-year colleges, as compared to those at two-year schools, are more likely to be on the margin of attending out of state. Nationwide, about 25 percent of four-year college students go to school outside their home state, while only about 3 percent of two-year college students do so (U.S. Department of Education, various years).

[13] Note, however, the USG data do not inform us about enrollment in the private sector, especially at less-than-two-year schools, which generally do not grant degrees and are run as for-profit enterprises. Data on enrollment at these schools is quite poor: while the IPEDS surveys all degree-granting schools, it only includes a sample of the non-degree schools and the sampling methodology appears to vary from year to year. We therefore cannot directly measure the effect of HOPE on enrollment at these institutions.

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Figure 5-1: Number of Georgia Residents in University of Georgia System Two-Year Colleges

Source: University System of Georgia Ten-Year Enrollment Report, various years.

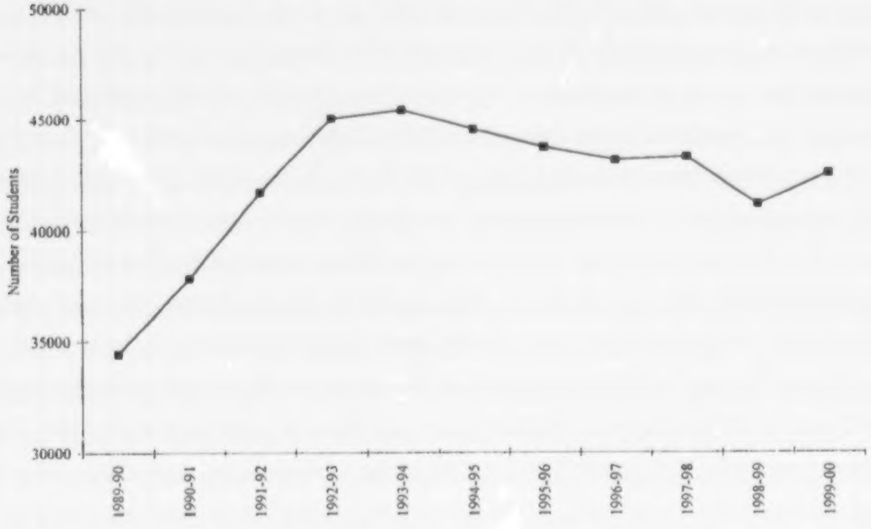
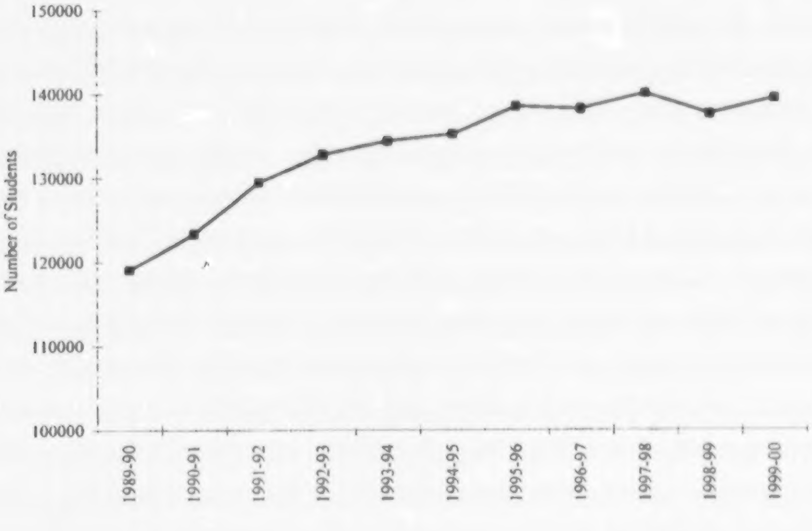


Figure 5-2: Number of Georgia Residents in University System of Georgia Four-Year Colleges

Source: University System of Georgia Ten-Year Enrollment Report, various years.



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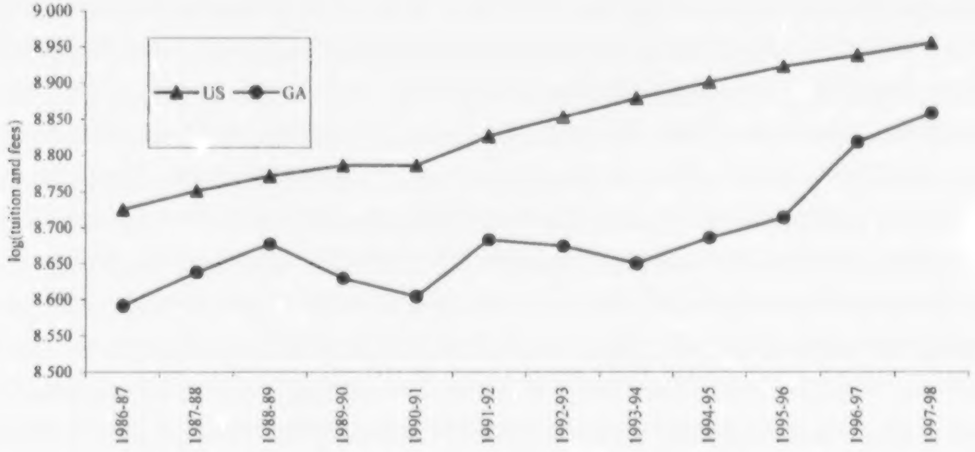
HOPE HAS INCREASED PUBLIC TUITION PRICES

Georgia's public colleges and universities appear to have increased prices in the wake of the program. Chapter 6 addresses this issue in depth, so I will touch upon it only briefly here. Public college costs, consisting of tuition, fees, room, and board, were stable in Georgia before HOPE, with costs in 1993-94 only about 6 percent higher than their level in 1986-87 (Figure 5-3).[14] In fact, real prices in Georgia actually dropped during the years immediately preceding HOPE. By contrast, real public schooling costs in the U.S. rose steadily between 1986-87 and 1993-94, for a total increase over this period of around 15 percentage points.

After HOPE was introduced, the situation was reversed, with public college costs in Georgia rising at a rate higher than that of the U.S. Between 1993-94 and 1997-98, schooling costs rose about 21 percent in Georgia and 8 percent in the rest of the U.S. (Figure 5-3). To a lesser degree, the same pattern emerges from the plot of private school costs (Figure 5-4). Private schooling costs rose slightly faster in the U.S. than in Georgia before HOPE (18 vs. 16 percentage points, respectively) but the situation was reversed after HOPE was introduced (8 vs. 12 percentage points, respectively).

Figure 5-3: Log of Average Tuition, Fees, Room and Board at Public Four-Year Schools ($1998)

Source: National Center for Education Statistics (1998)



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[14] I look at room and board, along with tuition and fees, in order to avoid having the results contaminated by any gaming behavior on the part of the colleges. Since the HOPE Scholarship automatically paid for any increases in public schools' tuition and fees, but not for increases in room and board, these schools had an incentive to label their price hikes as increases in tuition and fees rather than increases in room and board. Chapter 6 examines the cost components separately.

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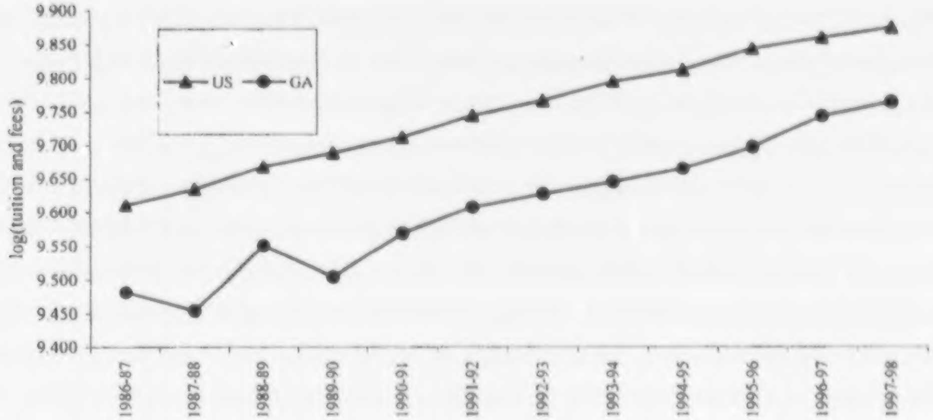
Figure 5-4: Log of Average Tuition, Fees, Room and Board at Private Four-Year Schools ($1998)

Source: National Center for Education Statistics (1998)



DISCUSSION AND CONCLUSIONS

Several clear findings have emerged from this chapter. The effect of HOPE on college access is concentrated among Georgia's white youth, who have experienced a 12.4 percentage point rise in their attendance rate relative to whites in nearby states. The black enrollment rate in Georgia has not budged since HOPE was introduced. As a result, the already-large racial gap in college attendance in Georgia widened to a chasm after HOPE's introduction. In the years before HOPE, Georgia's whites were about 11 percent more likely to go to college than blacks (Table 5-1). After HOPE, Georgia's whites were 26 percent more likely to go to college than blacks (Table 5-1).[15] The gap in the attendance of low- and upper-income youth also widened substantially after HOPE's introduction (Table 5-3), though data deficiencies in the measurement of family income make it difficult to pinpoint precisely how much the gap grew (see Appendix).

Overall, the results suggest that for each $1,000 of subsidy offered by HOPE, the college attendance rate rose by about four percentage points. This is a surprisingly large response, given HOPE's focus on middle- and upper-income youth. In fact, the estimate is of the same order of magnitude as those reported by studies that examine the effect of aid on low-income students.[16] This may be surprising to those who assume that lower-income youth are most sensitive to schooling prices. However, neither theory nor empirical evidence unambiguously predicts that aid has its strongest effect on disadvantaged youth.[17]

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[15] Regression analysis in Dynarski (1999, 2000) indicates that the racial gap in attendance widened in Georgia by 14.9 percentage points relative to the gap in the other southeastern states. The standard error on this estimate is 7.9 percentage points.

[16] See Dynarski (forthcoming) and Kane (1994).

Consider, for example, a poor youth who has attended inadequate schools since early childhood and who is performing years below grade on achievement tests and in the classroom. A college scholarship is meaningless to such a student, who is not on the threshold of entering college but instead on the verge of dropping out of high school. We should not be surprised if a middle-income youth with modest academic skills is more likely to have his behavior changed by the offer a scholarship than this disadvantaged student.

Does merit aid, by its nature, widen racial and economic gaps in college attendance, or are the peculiarities of the Georgia program to blame for this effect? From a policy perspective, this is a crucial distinction, and the current data don't let us say much conclusive on this point. It *is* safe to say that by placing a large paperwork burden on low-income youth, reducing their HOPE awards by any need-based aid, cutting state need-based grants, and raising public tuition prices, Georgia stacked the deck against low-income youth. The few low-income youth who met the academic requirements of HOPE may have seen a decrease in their schooling costs; at the very least, they received a $400 book allowance. But the many low-income youth who were not eligible for HOPE would have seen their schooling costs *increase*, since they faced increases in tuition prices and cuts in grants but received no countervailing benefit from the program.

Georgia designed a merit program that was almost guaranteed to have little positive effect upon the schooling decisions of low-income youth, who are disproportionately black. At least one of these poor decisions has been reversed, as the state has now opened HOPE to those who receive other forms of aid, such as the Pell Grant. But even with this rule change, HOPE is likely to continue to exacerbate racial and income gaps in college attendance, for the simple reason that relatively few poor, black youth have the academic skills needed to meet its academic requirements. Closing the racial gap in college attendance requires not only a well-designed financial aid program, but also an elementary and secondary school system that gives poor and non-majority youth the skills they need to make it in college.

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[17] Dynarski (2000) provides a formal analysis of this point, showing that it is theoretically ambiguous whether low- or upper-income youth are more responsive to aid. Dynarski (2002a) reviews the empirical evidence on this question.

APPENDIX

The data for this analysis come from the October Current Population Survey (CPS) and the Integrated Postsecondary Education Data System (IPEDS). The CPS is a monthly, national household survey that each October gathers detailed information about schooling enrollment. IPEDS integrates into a single data set information from a variety of surveys of postsecondary institutions conducted by the U.S. Department of Education. I have merged annual, state-level unemployment statistics from the Bureau of Labor Statistics with the CPS data. Means for the CPS data set are in Table 5-A1.

The CPS, while the best available resource for the purposes of this paper, has its flaws. First, state samples are small: for the period 1989 to 1997, there are a total of 470 18- to 19-year-olds from Georgia in the October CPS. As a result, year-to-year changes in enrollment rates within Georgia are fairly noisy.[18] The CPS's small within-state samples also preclude any informative analysis of detailed schooling choices, such as whether college students are induced by HOPE to attend public vs. private schools, or four-year vs. two-year schools. The IPEDS allows for limited exploration of these questions.

Second, information about a youth's family background is not consistently available in the CPS. Family background variables, such as parental income, are available only for those youth that appear on their parents' CPS record. A youth appears on her family's record for one of two reasons: she lives with her family or she is away at college. The probability that a youth has family background information available is therefore a function of her propensity to attend college. This form of sample selection will produce bias in analyses where college attendance is an outcome of interest.[19] The income analysis requires family income information, and for that analysis the sample is limited to those who appear on their parents' record. In Dynarski (2000), I explore the sensitivity of these results to sample selection and conclude that at least part of the income differential in the response to HOPE is due to this bias, though the bias would have to be unreasonably large to negate the conclusion that HOPE widened income gaps in college attendance. The bulk of the analysis, including that of racial differences, is based on the full sample of 18- to 19- year-olds and is not subject to this source of bias.

Third, the CPS identifies neither the state in which a person attended high school nor the state in which she attends college. A reasonable assumption is that 18- to 19-year-olds attended high school in the state in which they currently reside. Within a group this young, migration across state lines other than to attend college is minimal. And when a youth does go out of state to college, she is recorded as a resident of her home state by CPS coding standards.[20] Since the CPS does not provide the state in which the student attends college, I am unable to use these data to detect if HOPE has altered not just the rate of attendance but the proclivity of youth to attend college in-state. The IPEDS allows us to gain some insight into this issue, as the Department of Education every other year gathers from colleges' data about their students' states of residence.

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[18] I could more than double the sample by extending the age cutoff to 22. However, as was discussed earlier, older youth were not eligible for HOPE during its early years.

[19] Cameron and Heckman (1999) discuss this point.

[20] Such youth enter the sample if their parents' home has been selected as a CPS household. Youth who leave home and set up independent households do not show up on their parents' record and are recorded as residents of whatever state they live in. The overwhelming majority (about 90 percent) of 18- to 19-year-olds do show up on their parents' record, so these coding rules appear to hold in practice.

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The empirical approach of the paper is straightforward. I examine changes in college attendance rates over time within Georgia, looking for discontinuities at the time of the HOPE's introduction. A control group is required in order to isolate the effects of HOPE beyond any secular trends in college attendance. A natural control group is the other states of the southeastern United States. I use as a control group the South Atlantic and East South Central Census Divisions, which consist of Georgia plus Alabama, Delaware, the District of Columbia, Florida, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

The effect of HOPE is identified by differences between Georgia and the rest of the southeastern United States in the time pattern of college attendance rates. I compare attendance rates before and after HOPE was introduced, within Georgia and in the rest of the region. This calculation can be made by using ordinary least squares:

$$(1)\quad y_i = \alpha_1 + \beta_1(Georgia_i * After_t) + \delta_1 Georgia_i + \theta_1 After_t + v_{it}$$

where the dependent variable is a binary measure of college attendance, $Georgia_i$ is a binary variable that is set to one if a youth is a Georgia resident and $After_t$ is a binary variable that is set to one in the sample years in which HOPE was in place (1993 forward). This specification controls for the time trend in college attendance (θ_1), as well as for the average effect on attendance of being a Georgia resident (δ_1). The reduced-form effect of the HOPE Scholarship is identified by β_1. The identifying assumption is that any relative shift in the attendance rate of Georgia youth is attributable to the introduction of HOPE.

All estimates are undertaken using ordinary least squares. Probit produces similar results. The CPS sample weights are used in all the regressions. The standard errors are adjusted for heteroskedasticity due to the binary dependent variable. Standard errors are also adjusted for correlation within state and year.

Table 5-A1: Sample Means, 18- to 19-Year Olds

	1989-92		1993-97	
	Georgia	Southeastern States	Georgia	Southeastern States
Black	0.377 (0.486)	0.265 (0.441)	0.325 (0.469)	0.260 (0.438)
Family Income < $50K	0.754 (0.432)	0.740 (0.439)	0.611 (0.489)	0.666 (0.472)
Metro Area Resident	0.661 (0.475)	0.682 (0.467)	0.703 (0.458)	0.716 (0.451)
Age 18	0.474 (0.500)	0.492 (0.500)	0.522 (0.500)	0.503 (0.500)
State Unemployment Rate	5.53 (0.709)	6.24 (1.73)	5.73 (1.06)	5.36 (1.37)
N	183	3,231	287	3,110

Note: Means are weighted by CPS sample weights. Standard deviations are in parentheses. The share with income below $50,000 is for the 70.2 percent of 18- to 19-year-olds that both appear on their parents' CPS record and have a valid response to the family income question.

Source: October CPS, 1989-97

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CHAPTER 6

DO STATE FINANCIAL AID PROGRAMS CAUSE COLLEGES TO RAISE PRICES? THE CASE OF THE GEORGIA HOPE SCHOLARSHIP

⁂

Bridget Terry Long

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INTRODUCTION

As the importance of a college degree has grown during the past several decades, the government has tried to increase access to higher education by initiating a series of financial aid policies. While many studies have examined the responses of potential students to these initiatives, the supply side of the market has been largely ignored. However, the impact of an aid program on the behavior of a postsecondary institution could have important implications for the effectiveness of a policy. As noted by William Bennett, the former Secretary of Education, in a 1987 *New York Times* editorial, government aid could induce schools to raise their tuition price, since the aid enables students to pay more. In addition, a financial aid program could encourage colleges to reduce their own financial aid awards so that the government aid acts as a substitute. These types of institutional responses would diminish the overall impact of the aid policy by reducing the intended benefit for recipients. Furthermore, students who do not receive the aid would experience increases in cost and therefore would be in a worse position than before the policy was enacted.

The introduction of the Georgia HOPE Scholarship provides a unique opportunity to analyze these possible institutional responses. As an aid program isolated in one state, HOPE serves as a good natural experiment in which the behavior of Georgia colleges can be compared to that of schools outside of the state. First awarded during the fall of 1993, the HOPE Scholarship provides tuition, fees, and a book allowance to Georgia students with a B average who attend an in-state public college.[1] Those students choosing to attend an in-state private college are given comparably valued compensation.[2] Although the program originally had income caps during the first two years, by the fall of 1995, these constraints had been removed, making HOPE part of a nationwide shift from traditional need-based aid to merit-based support.[3]

As the largest and most visible of the state merit-based scholarship programs, HOPE has been scrutinized by many researchers, including some in this volume (see Chapters 4 and 5). For the most part, the research and debate have focused on the possible influence of the program on the behavior of individuals. Studies have estimated the enrollment and college persistence effects of the aid and the impact of the program on high school achievement. However, since the response of colleges to the creation of an aid program is important to understanding a policy's full effect, the complete ramifications of HOPE remain unclear. This paper examines how student charges have been affected by the creation of the Georgia HOPE Scholarship. Have colleges within Georgia tried to absorb the additional financial support from the state government by raising tuition or room and board fees? Additionally, has the Georgia HOPE program affected financial aid awards? Have colleges reduced the amount of institutional scholarships they give to students so that the state financial support is actually substituting for aid that would have otherwise been available? By examining the institutional impact of the Georgia HOPE Scholarship, this paper adds to the debate about the effects of state merit-based programs as well as addresses a hole in the larger literature about the behavior of postsecondary institutions.

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[1] In addition to the HOPE Scholarship, Georgia created the smaller HOPE Grant program, which has no merit requirements and allows students to attend non-degree programs at two-year institutions for free.

[2] The value was set at $500 in 1993, $1,000 in 1994, and $1,500 in 1995 but did not have a merit component. These awards supplemented a $1,000 Tuition Equalization Grant Georgia provided to students attending an in-state private college. Beginning in 1996, the value was set at $3,000 with the same merit conditions as those attending public schools.

[3] During the first year of HOPE (1993), the income cap was $66,000. It was $100,000 for the second year.

LITERATURE ON THE SUPPLY SIDE OF AID

Generally, research on the effects of student-aid policies has examined the factors that influence which individuals attend college. Far less is understood about the "supply side." As noted by Ehrenberg (2000a), empirical knowledge is deficient about both the determinants of entry and growth of higher education institutions and the characteristics of schools that change. Recent work on institutions has focused on the behavior of selective private institutions. Clotfelter (1996) analyzes the escalation of spending at four elite, private universities and links this to the goals of the schools. Ehrenberg (2000b) also examines the behavior of elite universities, focusing on how admissions, financial aid, and college ranking systems affect how schools try to compete for students. While these books have informed researchers about the considerations of elite private universities, this group is a small segment of the market. Much less is known from empirical work about other types of schools.

The pricing of colleges has gained the most attention concerning institutional behavior. Researchers have tested the Bennett Hypothesis by examining whether increases in aid translate into increases in tuition prices. McPherson and Schapiro (1991) use annual institutional data to relate changes in federal aid, such as the Pell Grant, to institutional behavior. They find that, contrary to Bennett's predictions, increases in government aid are coupled with increases in institutional scholarship spending at private colleges. Li (1999) also focuses on the effects of the federal Pell Grant. Using the master files of the Pell Grant Information System to track Pell recipients and the tuition levels of their respective colleges, she finds some support for the Bennett Hypothesis. For every dollar increase in Pell, schools were found to increase tuition by $1.12.[4]

One possible reason for these conflicting results stems from the difficulty in isolating the effect of government aid on tuition pricing from other factors. It is unclear whether changes in tuition are due to changes in the Pell Grant or other general trends in higher education. For example, during the past twenty years, colleges have increasingly practiced tuition discounting, under which the institutions raise the list price of college while varying the actual price individual students pay. Additionally, colleges have substantially increased expenditures on student services and technology, which may have required them to raise tuitions to cover the additional costs. Furthermore, the nature of the Pell Grant makes it a difficult program to study to determine the impact on institutional behavior. First, there have not been large, discrete changes in the Pell Grant since its creation, and therefore, it is difficult to perform a clear before-and-after analysis of its effect on colleges. Second, since it is a federal program, it is difficult to determine a comparable control group. Institutions with many Pell Grant recipients are different from those without many such recipients in ways likely to affect tuition pricing and trends. In contrast, the Georgia HOPE Scholarship is a generous and isolated state policy in which there are clearer treatment and control groups that can be compared over time to discern the institutional impact.

METHODOLOGY AND DATA

To test the effects of the HOPE scholarship on institutions, I examine how pricing, expenditures, and enrollment evolved over time for colleges and universities within Georgia, particularly after the introduction of HOPE in 1993. In order to account for any general trends that have affected all American universities, colleges in other states are used as a control group. The difference between schools in Georgia and schools elsewhere is considered the effect of the

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[4] Also see Kane (1999) and Hauptman and Krop (1997).

HOPE program. This "differences-in-differences" analysis technique is similar to that employed in Chapter 5 of this report.

The reactions of public versus private institutions may differ given the differential treatment of the scholarship (public college tuition is fully funded while private college students receive a flat amount). Furthermore, the influence of the state legislature in policies at public colleges may also cause differences by sector. For example, constraints imposed by the state government may not allow public colleges the flexibility to raise tuition significantly, and as a result they may increase other fees like room and board charges. Additionally, the mission of public colleges to serve all students, recipients and nonrecipients alike, may induce them to increase in size in order to accommodate the increasing number of Georgia residents who remained in-state after the creation of the program.

The responses of higher education institutions are also likely to be influenced by the number of HOPE recipients enrolled at an institution. For example, one may observe a larger response at a school in which three-quarters of the student body are HOPE recipients when compared to a college in which only one-quarter are HOPE recipients. The former will have more students from which to receive the scholarship revenues than the latter. Therefore, distinctions in the proportions of the student body that were HOPE recipients are also made in the analysis to further test the predictions.

The ideal control group for this experiment is the set of colleges that are impacted by similar trends and economic shocks. Therefore, similar to the methodology employed in Chapters 4 and 5, I use colleges in the Southeast as the control group.[5] However, given the competitive nature of the market for higher education, it is possible that colleges that compete for Georgia students may respond to HOPE in the opposite manner as schools within Georgia in order to continue attracting Georgia students. For example, a competing school might lower its tuition, offer more financial aid, or try to improve quality by increasing educational expenditures. If these "competitor" colleges were included in the control group, the effect of HOPE would be overestimated. See the Appendix (Table 6-A1) for a list of the competitor colleges, defined as having at least 5 percent of their first-time freshman from Georgia.

There are several other factors that influence the decisions of colleges about prices, expenditures, and enrollment. First, the traditions, wealth, and economic conditions of a particular state are likely to affect the general offerings and price of colleges within the state. To account for these factors, the analysis controls for state characteristics such as annual per capita income, the percent of the population with a bachelor's degree, and the annual unemployment rate. Second, the amount of state support awarded by the state legislature has a strong influence on the tuition decisions of public colleges and universities. Therefore, the models containing public colleges also control for the annual amount of state appropriations per student at each school.[6] Finally, the market segment of the college and its likely competitors could affect its pricing and expenditures. The most selective colleges offer more institutional financial aid and spend more on instruction and student services than less selective schools, and each group faces different competitive pressures from other institutions. For this reason, the models take into consideration the selectivity level of the college. Controlling for these factors is important to

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[5] The Southeast states are: AL, DC, DE, FL, KY, MD, MS, NC, SC, TN, VA, and WV.

[6] The correlation between the mean tuition cost of four-year, public colleges and the mean amount of state appropriations received by such schools was -0.7 from 1977 to 1997 (NCES data). In practice, schools are generally discouraged by legislatures from increasing the tuition above a certain percentage each year. However, substantial increases are allowed when state appropriations are reduced thereby implicitly linking the subsidy and tuition level.

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understanding whether an estimated effect is truly due to the HOPE Scholarship. For example, if the sample of Georgia schools were all rated as "Highly Competitive" while the control group were all rated "Less Competitive," then one would be wary of attributing an estimated effect to HOPE when it may actually be due to other differences between the comparison groups.

The data for this analysis come from several sources. First, the Integrated Postsecondary Education Data System (IPEDS) provides the necessary institutional detail. These survey data, which are collected annually by the National Center for Education Statistics of the U.S. Department of Education, document extensive information on postsecondary institutions within the United States, including financial expenditures (broken down by purpose), list tuition price, and enrollment figures. In order to capture the 1993 introduction of the Georgia HOPE program, I use IPEDS data from the 1989-90 school year to the 1997-98 school year. All figures were inflated to 2000 dollars using the Consumer Price Index for Urban Areas (CPI-U). More recent years are not used to avoid contamination from the introduction of other state merit-based programs in the South.[7] A second source, Barron's *Profiles of American Colleges*, provides selectivity groupings for institutions based on student body grades and test scores as well as admission policies. Data on state characteristics such as the annual unemployment rate, per capita income, and the percent of the population with a bachelor's degree were taken from the *Statistical Abstract of the United States*. Finally, I use data from the Georgia Student Finance Commission on the number of HOPE recipients at each Georgia college. Combined with enrollment data from IPEDS, I calculated the average percentage of the student body that were HOPE recipients.

The advantages of using the Georgia HOPE as a natural experiment stem from the isolated effect of the policy. However, examining institutional responses to a financial aid policy in a single state also introduces problems associated with a small sample size. The analysis is likely to be sensitive to the particular institutions included in the sample. Therefore, beyond controlling for some of the important characteristics of the colleges, such as sector and competitiveness level, I made considerable effort to have a complete and balanced panel of data. To avoid estimating results driven by yearly fluctuations in the composition of the sample rather than a true effect, I imposed a restriction that at least eight of the nine possible years of data had to be available. For this reason, the sample of institutions for some of the variables is incomplete. Summary statistics of the data before the policy change can be found in Tables 6-1 and 6-2.[8] The sample is complete (or near complete) for list tuition, instructional expenditures, and enrollment figures. However, significant gaps exist in the information available on institutional aid (particularly for public, four-year institutions).[9] When not using the complete sample of colleges in estimation, special attention must be paid to how the characteristics of the partial sample might drive the results.

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[7] Although Mississippi and South Carolina initiated small programs in 1996, Florida created a large state merit-based program in 1997 (see Chapter 2). Large programs in Louisiana and South Carolina followed in 1998. See the Introduction to this report for more on national trends in the development of state merit scholarship programs.

[8] See the Appendix (Tables 6-A2 and 6-A3) for a list of the colleges used for each variable.

[9] Room and Board information is also missing for many institutions, but this is mostly due to the lack of residential options for students and not deficiencies within the data.

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Table 6-1: Four-Year Colleges – 1992-93 Summary Statistics

	Georgia Colleges	Competitor Colleges (5%+ GA Residents)	Other Southeastern Colleges
	PUBLIC FOUR-YEAR COLLEGES		
Number	18	11	103
List In-state Tuition Price	2,088 (281) [18]	2,196 (345) [11]	2,602 (938) [103]
Room and Board Charges	3,166 (332) [11]	3,330 (450) [7]	3,979 (843) [80]
Institutional Scholarships per FTE	68 (47) [2]	433 (206) [8]	311 (281) [73]
FTE Undergraduate Enrollment	5,874 (4,932) [18]	7,526 (4,580) [11]	7,385 (5,581) [103]
	PRIVATE FOUR-YEAR COLLEGES		
Number	21	60	156
List In-state Tuition Price	8,872 (4,142) [19]	10,138 (4,036) [60]	9,303 (4,098) [154]
Room and Board Charges	4,707 (1,106) [9]	4,501 (1,088) [47]	4,432 (1,272) [107]
Institutional Scholarships per FTE	2,683 (1,887) [14]	2,677 (1,503) [46]	2,137 (1,428) [84]
FTE Undergraduate Enrollment	1,484 (1,301) [21]	1,203 (1,008) [59]	1,429 (1,457) [156]

Notes: Standard deviations are in parentheses. The numbers of observations are in brackets. All monetary amounts are reported in 2000 dollars. Competitor colleges are defined as schools outside GA with at least five percent of their first-time freshman from Georgia. The Southeastern states are: AL, DC, DE, FL, KY, MD, MS, NC, SC, TN, VA, and WV. Proprietary colleges are not included in the sample. See the Appendix for a complete list of the Georgia and competitor colleges.

Source: IPEDS data from 1989-90 to 1997-98.

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Table 6-2: Public Two-Year Colleges – 1992-93 Summary Statistics

	Georgia Colleges		Other Southeastern Colleges
	Community Colleges	Technical Colleges	
Number	14	5	205
List In-state Tuition Price	1,368 (80) [14]	780 (131) [5]	1,301 (686) [202]
Instructional Expenditures per FTE	3,001 (626) [14]	5,257 (2,149) [5]	3,241 (961) [204]
FTE Undergraduate Enrollment	2,276 (2,555) [14]	1,495 (406) [5]	3,269 (4,003) [205]
Mean Pell Grant	741 (254) [14]	706 (520) [5]	691 (360) [201]

Notes: Standard deviations are in parentheses. The numbers of observations are in brackets. All monetary amounts are reported in 2000 dollars. Competing colleges are defined as schools outside GA with at least five percent of their first-time freshman from Georgia. The Southeastern states are: AL, DC, DE, FL, KY, MD, MS, NC, SC, TN, VA, and WV. For-profit colleges are not included in the sample. Many Georgia Technical Colleges were dropped from the sample due to missing information about state appropriations. See the Appendix for a complete list of the Georgia colleges.

Source: IPEDS data from 1989-90 to 1997-98.

THE EFFECT ON STUDENT CHARGES

According to the Bennett Hypothesis, the aid program should have given Georgia colleges incentives to raise their price in order to capture the revenue from the HOPE scholarships. After 1993, it appears that list tuition prices in Georgia increased slightly, but so did those at schools outside of the state (Figures 6-1 and 6-2). The effects differed by type of institution. Private four-year colleges with large proportions of their student bodies as HOPE recipients experienced over a 4 percent relative increase in list tuition (Table 6-3). This translates into a $355 increase, approximately 12 percent of the value of HOPE for the end of the period. Private four-year colleges with fewer HOPE recipients did not experience any differential change in price. Public four-year colleges reduced tuition prices relative to the control group, but the effect is not statistically significant once state appropriations are accounted for. Public two-year colleges in Georgia experienced relative declines in price. These schools charged 12.5 percent less than their counterparts after HOPE. However, students at these schools were eligible for the HOPE Grant, a companion to the HOPE scholarship that pays full tuition at two-year institutions and does not have a merit component. It is likely, therefore, that the state legislature had a special interest in keeping down the costs of these colleges and thus the bill to be paid by HOPE. Additionally, the institutional missions of these schools as "community colleges" may suggest different objectives than four-year schools.

The lack of a differential effect for public four-year institutions may also be due to pressures from the legislature to keep tuition prices stable. However, constraints on increases in room and board charges may be less binding. And, in fact, Georgia public colleges raised these charges by 7 percent, relative to other institutions, even after controlling for the other factors.

The increase in room and board was stronger for colleges with large proportions of their student bodies as HOPE recipients (8 percent, compared to 5 percent). These results translate into about $205 on average based on pre-HOPE room and board fees. With an average HOPE value of $2,228 for public four-year colleges after 1993 (based on tuition price), this suggests that colleges increased fees by 9 cents for each dollar of aid. This total is slightly less than the amount private four-year colleges raised list tuition price. The increase in room and board charges was essentially the same for all four-year private colleges in Georgia, regardless of their characteristics.

Figure 6-1: Median List Tuition, Public Four-Year Colleges

Notes: Figures are in 2000 dollars. The Southeastern states are: AL, DC, DE, FL, KY, MD, MS, NC, SC, TN, VA, and WV. Competing colleges are defined as schools outside GA with at least 5 percent of their first-time freshman from GA in 1992-93. Proprietary colleges are not included in the sample.

Source: IPEDS data from 1989-90 to 1997-98.

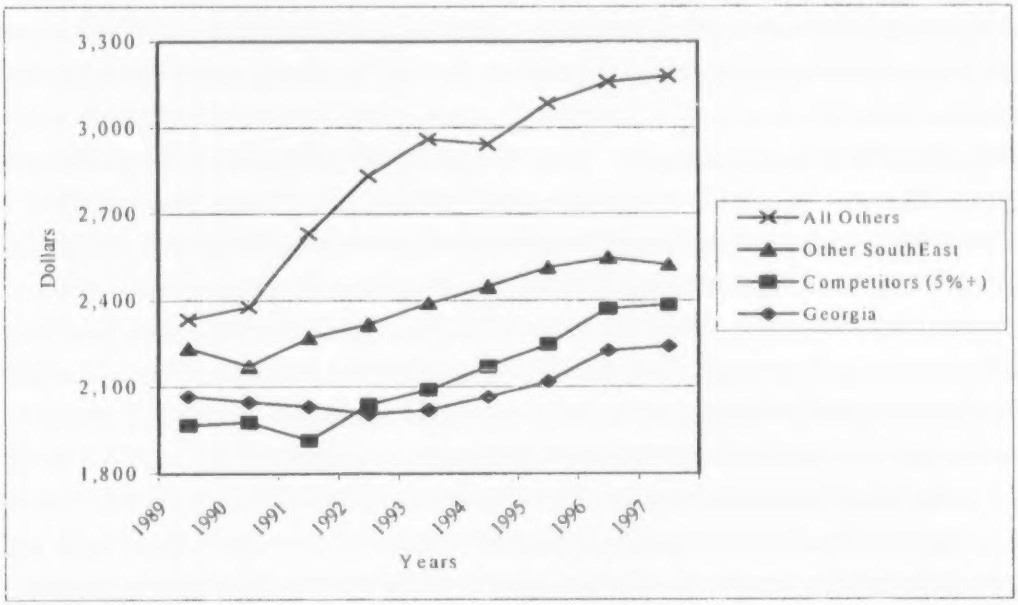

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Figure 6-2: Median List Tuition, Private Four-Year Colleges

Notes: Figures are in 2000 dollars. The Southeastern states are: AL, DC, DE, FL, KY, MD, MS, NC, SC, TN, VA, and WV. Competing colleges are defined as schools outside GA with at least 5 percent of their first-time freshman from GA in 1992-93. Proprietary colleges are not included in the sample.

Source: IPEDS data from 1989-90 to 1997-98.

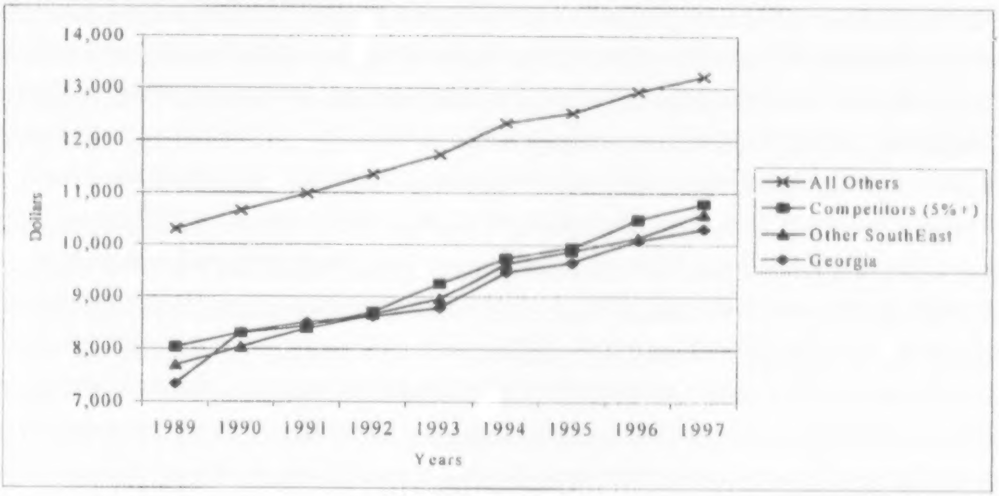

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Table 6-3: Relative Response of Georgia Colleges – Separate Regressions by Sector
Control Group: Other Colleges in the Southeast except for Competitor Colleges

	PUBLIC FOUR-YEAR COLLEGES			PRIVATE FOUR-YEAR COLLEGES			PUBLIC TWO-YEAR COLLEGES
	All Schools	Many HOPE Recipients	Few HOPE Recipients	All Schools	Many HOPE Recipients	Few HOPE Recipients	
LIST TUITION PRICE	-.0170 (.0138)	-.0158 (.0163)	-.0166 (.0153)	.0172 (.0228)	.0426** (.0213)	-.0236 (.0359)	-.1249** (.0230)
R-squared	.6467	.6479	.6474	.2848	.2932	.2762	.6118
Observations	1,071	990	991	1,538	1,474	1,427	1,998
# of Colleges	121	112	112	174	167	162	225
ROOM AND BOARD FEES	.0651** (.0168)	.0797** (.0188)	.0468** (.0204)	.0429 (.0378)	.0260 (.0429)	.0717 (.0563)	---
R-squared	.6064	.6033	.6037	.4785	.5404	.5500	
Observations	796	752	742	1,027	989	980	
# of Colleges	91	86	85	117	113	112	
INSTIT. FINANCIAL AID	-.5700** (.2905) limited sample	---	---	-.1286† (.0867)	-.1322 (.1025)	-.1326 (.1324)	---
R-squared	.1752			.2483	.2545	.2585	
Observations	647			811	774	731	
# of Colleges	76			98	94	88	

** Significant at the 5% level   * Significant at the 10% level   † Significant at the 15% level

Notes: Standard errors are shown in parentheses. The Southeastern states are: AL, DC, DE, FL, KY, MD, MS, NC, SC, TN, VA, and WV. Competing colleges are defined as schools outside GA with at least five percent of their first-time freshman from Georgia in 1992-93. Proprietary colleges are not included in the sample. All models include year fixed effects and controls for (i) state characteristics, (ii) state appropriations to the public colleges, and (iii) college selectivity. The state characteristics include the annual unemployment rate, annual per capita income, and 1990 percent of the population with a bachelor's degree. College selectivity measures consist of dummy variables for the Barron's groupings "Most, Highly, and Very Competitive" and "Competitive" ("Less Competitive" and "Noncompetitive" colleges serve as the baseline group). Colleges with "Many HOPE Recipients" are defined as being in the top half of the distribution of Georgia four-year colleges in terms of the proportion of the student body with scholarships.

Source: IPEDS data from 1989-90 to 1997-98.

THE EFFECT ON FINANCIAL AID AWARDS

While the effects of the HOPE scholarship on tuitions and fees were significant for some institutions, although more modest than the Bennett Hypothesis would have predicted, the effects on institutional scholarships were more consistent.[10] At two public, four-year colleges (University of Georgia and Albany State College) aid awards fell 57 percent, after accounting for

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[10] This aid is defined as scholarships or fellowships from revenues that were generated by the institution including matching funds for federal, state, or local grants (Broyles, 1995).

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differences in state and school characteristics. About 60 percent of the students at these schools were HOPE recipients with free tuition.

Private, four-year colleges reduced their institutional awards by 17 percent; once accounting for state and college characteristics (as shown in Table 6-3), the estimated effect is a 13 percent decrease. This suggests an aid substitution effect, in which the increase in student support from the state with HOPE was met with a reduction in institutional student support. The estimate translates into a $349 decrease in scholarships, again suggesting about a 12 percent reduction. The estimated effects for colleges with high proportions of HOPE recipients are similar in magnitude to those for colleges with fewer HOPE recipients, but most likely due to the sample size, the results are not statistically significant.

CONCLUSION AND IMPLICATIONS

This paper lends support to the notion that the Georgia HOPE Scholarship program produced effects on institutions, as well as on students. Four-year colleges responded to the HOPE program with relative increases in student charges, and the magnitude of the effect of HOPE increased with the proportion of the student body that were aid recipients. For every dollar of aid, public four-year colleges increased room and board fees by about $0.09 more than the comparison group. For public colleges with larger proportions of HOPE recipients, the response was one-third larger: $0.12 for every dollar of aid. However, these cost increases were limited to those living on campus. Private four-year colleges, meanwhile, increased list tuition price, and those with larger proportions of their student bodies as HOPE recipients raised list tuition costs by $0.12 for every dollar of aid. Additionally, all private four-year colleges decreased institutional financial aid awards, suggesting a possible aid substitution effect. Together, the estimates suggest that the average cost of some private four-year colleges in Georgia increased by almost $0.25 for each $1 of HOPE aid.

While the results do not reach the levels suggested by Bennett in his "Our Greedy Colleges" editorial, the estimated magnitudes of the college responses suggest serious implications for the effectiveness and ramifications of the HOPE program. First, the increase in student costs reduced the intended benefits of the program for recipients. Using the estimated growth in fees at public four-year colleges and the student responses found in Chapter 5, I estimate that the enrollment rate of 18- to 19-year-olds in Georgia was 0.8 percentage points less than what it could have been without an institutional response. This suggests that the student enrollment impact of HOPE would have been 11 percent larger than it was if colleges had not raised their prices.[11] The negative impact of the institutional response to HOPE would have been greatest at private four-year colleges, which charged more and gave out less aid after the program was created. Scholarship recipients at some private four-year colleges actually received only $2,250 of the intended $3,000 in aid.

Although some students did not receive the full intended benefit of the HOPE Scholarship, nonrecipients of the aid were the real losers. They inadvertently experienced increases in prices as high as $700 as the result of a program designed to lower costs. If these nonrecipients were excluded due to receiving a Pell Grant, and so were from lower-income families, this increase may have had large enrollment impacts.[12] The same would be true for students who were unable to get the HOPE Scholarship due to its merit component.

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[11] Chapter 5 estimates that each $1,043 in aid (2000 dollars) increased the college attendance rate in Georgia by 3.7 to 4.2 percentage points. Therefore, a $205 decrease in aid would translate into 0.8 percentage points less in enrollment. In that chapter, Dynarski estimates that HOPE increased the college attendance rate of all 18- to 19-year-olds by 7.0 to 7.9 percentage points.

Figures from the last year of data for this study further illustrate the point. Nearly two-thirds of the first-year students at public Georgia colleges in 1997 did not receive HOPE Scholarships. This means that nearly 33,000 incoming public college students (along with additional students at private colleges) were affected by the increases in college costs without receiving additional financial aid. The proportion of nonrecipients is even larger among African-Americans. Seventy percent of the entering class of African American students did not receive a HOPE Scholarship, suggesting that the price increases were disproportionately experienced by minority students. Furthermore, since only 31 percent of the 1994 HOPE recipients kept their scholarship throughout college, the proportion of nonrecipients was even larger for students in the later years.[13] In total, more than 100,000 nonrecipient students have been affected each year by the price increases brought on by HOPE. The implications of these results highlight the importance of the design of a program in ensuring that the full benefit is realized by students, rather than institutions, and that students who do not receive the aid are not unintentionally negatively affected.

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[12] The literature suggests low-income students are more sensitive to price in enrollment decisions than other students. See McPherson and Schapiro (1991, 1998).

[13] Author's calculations using figures from Bugler and Henry (1998).

APPENDIX

Table 6-A1: Sample of Four-Year Georgia Colleges

	List Tuition	Room & Board	Institutional Aid	Instructional Expend	Undergrad Enrollment	Mean Pell Grants
FOUR-YEAR PUBLIC COLLEGES						
Highly and Very Competitive						
*Georgia Institute Of Technology	+	-	-	+	+	+
*University Of Georgia	+	+	+	+	+	+
Competitive						
Fort Valley State College	+	+	-	+	+	+
Georgia State University	+	-	-	+	+	+
*Georgia Southern University	+	+	-	+	+	+
Georgia Southwestern College	+	+	-	+	+	+
Kennesaw State College	+	-	-	+	+	+
Southern Polytechnic State University (formerly Southern College Of Technology)	+	+	-	+	+	+
Less Competitive						
Albany State College	+	+	+	+	+	+
Armstrong State College	+	-	-	+	+	+
Augusta College	+	-	-	+	+	+
*Clayton State College	+	-	-	+	+	+
*Columbus College	+	-	-	+	+	+
Georgia College	+	+	-	+	+	+
*North Georgia College	+	+	-	+	+	+
Savannah State College	+	+	-	+	+	-
*State University of West Georgia (formerly West Georgia College)	+	+	-	+	+	+
*Valdosta State University	+	+	-	+	+	+
FOUR-YEAR PRIVATE COLLEGES						
Highly and Very Competitive						
*Agnes Scott College	+	-	+	+	+	+
Covenant College	+	+	+	+	+	+
Emory University	+	+	+	+	+	+
Oglethorpe University	+	-	+	+	+	+
Spelman College	+	+	-	+	+	+
Competitive						
*Berry College	+	+	+	+	+	+
*Brenau University	+	-	+	+	+	+
*La Grange College	+	-	-	+	+	+
*Mercer University	+	+	+	+	+	+
Morehouse College	+	+	-	+	+	+
*Shorter College	+	+	+	+	+	+
Toccoa Falls College	+	-	+	+	+	-
*Wesleyan College	+	-	+	+	+	+
Less Competitive						
*Atlanta Christian College	+	-	+	+	+	-
*Emmanuel College	+	+	+	+	+	+
Life College	+	-	-	+	+	-
Morris Brown College	-	+	-	+	+	-
*Paine College	-	-	-	+	+	-
*Reinhardt College	+	-	+	+	+	-
Non Competitive						
*Brewton-Parker College	+	+	+	+	+	+
*Thomas College	+	-	-	-	-	-

"+" indicates the college was included in estimation

"*" indicates in the top half of the distribution in the proportion of the student body as recipients

See the notes to the next Table.

Table 6-A2: Sample of Two-Year Georgia Colleges

	List Tuition	Instructional Expend.	Undergrad. Enrollment	Mean Pell Grants
TWO-YEAR COMMUNITY COLLEGES				
Abraham Baldwin Agricultural College	+	+	+	+
Atlanta Metropolitan College	+	+	+	+
Bainbridge College	+	+	+	+
Coastal Georgia Community College (formerly Brunswick College)	+	+	+	+
Dalton College	+	+	+	+
Darton College	+	+	+	+
East Georgia College	+	+	+	+
Gainesville College	+	+	+	+
Georgia Perimeter College (formerly Dekalb College)	+	+	+	+
Gordon College	+	+	+	+
Macon College	+	+	+	+
Middle Georgia College	+	+	+	+
South Georgia College	+	+	+	+
Waycross College	+	+	+	+
TWO-YEAR TECHNICAL COLLEGES				
Central Georgia Technical College (formerly Macon Technical Institute)	+	+	+	+
Chattahoochee Technical Institute	+	+	+	+
Columbus Technical Institute	+	+	+	+
Dekalb Technical Institute	+	+	+	+
Gwinnett Technical Institute	+	+	+	+

"+" indicates the college was included in estimation

Notes: Colleges defined as proprietary and private two-year schools are not included in the sample.
Colleges without at least eight of the nine possible years of information were also not included in the models. To account for measurement error in the finance variables, values greater than 150% of the mean for the period were changed to missing.

The following institutions were not included due to missing information about annual state appropriations: Albany Technical Institute, Altamaha Technical Institute, Appalachian Technical College (formerly Pickens Technical Institute), Athens Area Technical Institute, Augusta Technical Institute, Coosa Valley Technical Institute, East Central Technical College (formerly Ben Hill-Irwin Technical Institute), Flint River Technical Institute, Griffin Technical Institute, Heart Of Georgia Technical Institute, Lanier Technical Institute, Middle Georgia Technical Institute, Moultrie Area Technical Institute, North Georgia Technical Institute, North Metro Technical Institute, Northwestern Technical College (formerly Walker Technical Institute), Okefenokee Technical Institute, Savannah Technical Institute, South Georgia Technical Institute, Southeastern Technical Institute, Southwest Georgia Technical College (formerly Thomas Technical Institute), Swainsboro Technical Institute, Valdosta Technical Institute, West Central Technical College (formerly Carroll Technical Institute), and West Georgia Technical Institute.

The following colleges were not included in the analysis due to other missing data or their specialized nature: Oxford College of Emory University, Art Institute of Atlanta, Atlanta College of Art, Atlanta Technical College, Georgia Baptist College of Nursing, Savannah College of Art and Design, Dalton Vocational School of Health, Georgia Aviation Technical College, Sandersville Technical College, Piedmont College, and Ogeechee Technical College.

Source: IPEDS data from 1989-90 to 1997-98.

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Table 6-A3: Colleges that Compete for Georgia Students

PUBLIC, FOUR-YEAR COLLEGES			
Jacksonville State University	17.24	Alabama State University	7.89
Auburn University Main Campus	15.34	Tennessee State University	7.46
Florida Agricultural and Mechanical University	10.44	Troy State University-Main Campus	7.01
University of Tennessee-Chattanooga	9.30	Alabama A & M University	6.65
University of South Carolina at Aiken	8.27	University of Mississippi – Main Campus	5.05
The University of Alabama	7.95		
PRIVATE, FOUR-YEAR COLLEGES			
Presbyterian College	36.78	Southern College of Seventh-Day Adventists	8.13
Tennessee Wesleyan College	34.21	Salem College	8.11
Furman University	24.81	Hollins College	7.89
Samford University	19.31	Freed-Hardeman University	7.69
Columbia Bible College And Seminary	17.24	Washington and Lee University	7.36
Converse College	15.58	Wake Forest University	7.09
Southeastern Bible College	13.04	Carson-Newman College	7.08
Saint Andrews Presbyterian College	12.37	Columbia College-Hollywood	6.90
Queens College	12.28	Southeastern College Assemblies Of God	6.70
Tennessee Temple University	12.21	Erskine College And Seminary	6.63
Warren Wilson College	12.17	Johnson C Smith University	6.39
University Of The South	11.98	Bennett College	6.35
Anderson College	11.95	Knoxville College	6.20
Tuskegee University	11.44	North Greenville College	6.14
Talladega College	11.05	Guilford College	6.09
Voorhees College	10.98	Belmont Abbey College	6.08
Maryville College	10.82	David Lipscomb University	5.92
Hampden-Sydney College	10.57	Hampton University	5.71
Bryan College	10.19	Cumberland College	5.59
Mount Vernon College	9.80	Lambuth University	5.51
Sweet Briar College	9.60	Birmingham Southern College	5.31
Vanderbilt University	9.60	Iowa Wesleyan College	5.30
Rhodes College	9.44	Oakwood College	5.11
Wofford College	9.41	Central Wesleyan College	5.06
Davidson College	9.18	Montreat-Anderson College	5.06
Huntingdon College	8.88	Mars Hill College	5.06
Tusculum College	8.73	Newberry College	5.06
Trevecca Nazarene College	8.15	Coker College	5.04

Note: Percent of First-Time, First-Year students from Georgia in 1992-93

Source: IPEDS enrollment data.

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CHAPTER 7

MERIT SCHOLARSHIPS AND THE OUTLOOK FOR EQUAL OPPORTUNITY IN HIGHER EDUCATION

❧

Patricia Marin

With the rise of merit-based scholarships, the original intent of providing publicly funded scholarships to increase access to higher education has gone awry. Merit-based scholarships are playing a larger and larger role in providing funds to students for higher education, displacing need-based financial aid as the primary funding mechanism for postsecondary education. In fact, the difference between the need-based and merit-based funds awarded in states that have merit scholarship programs is staggering. As noted in the introduction to this report, the twelve states that have broad-based merit scholarship programs with no income cap awarded a combined $863 million in merit awards during the 2000-01 academic year, almost three times the $308 million these states provided in need-based aid. Unfortunately, because of the definitions of "merit" employed, as well as the logistics of these programs, many of the students who have the greatest financial need are passed over, effectively increasing existing disparities in college participation for minority and low-income students. Somehow policymakers have lost the focus of expanding access to higher education and have replaced it, albeit indirectly, with increasing inequity. This trend is catching on in more and more states.

Merit aid programs are very popular because rewarding students for their academic work seems to be the right thing to do. While on the surface these programs seem reasonable, in reality they are not only ignoring existing needs but are actually exacerbating problems, such as the racial stratification of institutions, that we already witness in higher education. Of course, the effects on education are just the beginning of a larger chain reaction. Post-education, these programs may lead to larger wage and income gaps along racial lines, increasing the disparities already observed in our society. The potential long-term effects are enormous.

Since many of these merit aid programs are fairly new and similar programs are frequently being considered in other states, research is critical to clearly understand the outcomes, and unintended consequences, of such programs. The evidence presented in this report is significant in that it signals various detrimental outcomes of what, on the surface, appear to be innocuous programs. Studying Florida and Michigan, Heller and Rasmussen (Chapter 2) found a strong relationship between socioeconomic characteristics and the rate at which students qualify for the merit scholarships in these states. In addition, African American and Hispanic students qualify for these scholarships at rates below those of the Asian American and white students. Furthermore, the highest proportion of merit scholarships were awarded to students graduating from high schools that already had the highest college-participation rates prior to the implementation of the scholarship programs. All around, this study indicates that these merit aid programs will not do much to increase college access.

Binder, Ganderton, and Hutchens (Chapter 3), examining enrollment, academic, and retention effects of the New Mexico Lottery Success Scholarship, discovered that while the scholarship program did not expand college access for New Mexico public high school graduates, it did encourage students to attend in-state rather than out-of-state institutions, and to shift from two-year to four-year institutions. However, the program did not benefit all students equally, with scholarship loss occurring most among Hispanic, African American, and Native American men. In addition, they found an over-representation of non-Hispanic whites and higher-income students in the scholarship program. Additional findings indicate that the scholarship program disproportionately drew students with lower high school GPAs and ACT scores to the University of New Mexico, and that although first semester GPA increased, the number of hours completed decreased. Most notable among the researchers' findings are the changes observed in the Native American population at UNM—their retention rate increased and more low-income, high ability Native Americans attended UNM. This unique finding requires additional examination.

Three chapters in this report examine the Georgia HOPE scholarship (Chapters 4, 5, and 6). Cornwell and Mustard indicate that the HOPE scholarship has created an incentive for Georgia students to attend in-state colleges. However, while total enrollments are increasing, the program affected college *choice* rather than access, since many of the students who made up the increased enrollments are those who would have attended an out-of-state institution prior to HOPE. These changes are resulting in higher admissions standards at Georgia's colleges and universities, effectively locking out previously qualified Georgia residents and increasing stratification of Georgia's institutions along racial and ability lines. As a result, increases in black enrollments have generally occurred in Georgia's less selective institutions. But in a cruel irony, lower-income and black families effectively pay for the scholarships that produce these effects, since these families disproportionately buy lottery tickets, which pay for HOPE scholarships.

Dynarski (Chapter 5), also studying the effects of the HOPE scholarship on college attendance, finds that the overall increase in enrollments was not observed equally among all communities. Higher-income youths were more likely to increase their college attendance after HOPE than those from lower-income families. Similarly, HOPE has positively effected white college enrollment more than black college enrollment, thereby increasing the racial gap in college attendance. Furthermore, Dynarski agrees with Cornwell and Mustard (Chapter 4), stating that HOPE has had a greater effect on college choice rather than access.

Finally, Long examines the effects of the HOPE scholarship on institutional behavior in Georgia (Chapter 6). Her research finds that HOPE did result in an increase in tuitions and fees for some institutions, an important finding since increases in tuition effect all students who do not receive the state's merit based scholarships. In addition, she found a more consistent effect of HOPE on institutional financial aid awards. Essentially, an increase in student financial support from the HOPE program was met with a decline in the institutional financial support offered. Combining these two institutional responses—the increase in tuition and the reduction of institutional aid—results in increased costs for students and their families. This reduces the impact of the merit aid policy by decreasing intended benefits for recipients as well as hurting non-recipients. For example, 70 percent of the 1997 entering class of African Americans did not receive a HOPE scholarship but experienced cost increases. Furthermore, Long calculates that student enrollment rates would have been higher without such institutional responses.

Overall, the studies in this report make it clear that the students least likely to be awarded a merit scholarship come from populations that have traditionally been underrepresented in higher education. This hinders the potential to increase college access among minority and low-income students, especially if these scholarship programs continue to overshadow need-based programs. Yet we need to know more about these effects. While these studies increase our understanding about the merit aid programs examined, additional research is needed on specific student populations as well as other state merit aid programs not included in this report.

The reality of higher education is that there is no room for ill-conceived policies that do more harm than good, no matter how popular they may be. The future of our youth, and ultimately our society, is at stake. Policies must focus on expanding access and developing the talent of *all* our future citizens. This means that policymakers must take additional factors into consideration in using funds that are going to merit aid programs. Merit scholarship programs should be structured so that eligibility is determined by the potential benefit to the student and society by her success in postsecondary education, not simply in a manner that rewards students for being born into "good" families or for attending "good" schools. Ultimately, criteria are needed that lead to equitable access to public funding for higher education.

To begin this process, a broader definition of "merit" is needed. Testing agencies have long said that the tests they construct should not be the sole factor in a decision-making process because these tests are inexact measures and attempt to assess only a small portion of a student's abilities. Given these reservations, how can we continue to use these same tests to make an important decision about who receives college scholarships, particularly when these tests were never constructed for this purpose? Using grades as the only criterion for the awarding of scholarships presents many of the same pitfalls as the use of test scores. Instead of inappropriately using criteria—which we already know have disparate results for different groups of students—states should expand the definition of merit to include evidence from a wider array of measures. Colleges already understand the importance of using a variety of criteria in making admissions decisions—including high school grades, test scores, recommendations, essays, and extracurricular activities. Similarly, a wider range of criteria should be used to determine "merit" when awarding these scholarships.

Second, placing an income cap on merit aid programs is critical so that access can be expanded for those who most need financial support. This cap could be developed based on the population of each state to ensure that those most at risk of being priced out of college are included. Furthermore, caps could be placed on the total amount of merit aid each student is able to receive, based on family income. For example, students who demonstrate academic excellence but who do not need the funds to attend college could receive a modest, one-time award, while those who could not afford higher education without aid could receive a full scholarship for up to four or five years of enrollment.

Third, procedures for applying for these programs should not be more complicated for those in most need of financial support. Early in the HOPE program, to qualify for a scholarship, students from families with income above $50,000 completed a one-page form, while students from families below this income level needed to complete the Free Application for Federal Student Aid. This was due, at least in part, to the fact that Georgia education officials wanted to make sure that those who were eligible for federal aid would apply for it, especially since, at that time, other grants such as Pell Grants were subtracted from HOPE scholarships. This is exactly the reverse of what states should be doing. The more hoops students and their families have to jump through, the less likely they are to even apply for the funding. Complicated processes only serve to deny access to the scholarships for these students. In addition, students should not be faced with an "either/or" policy that results in *either* receiving need-based aid *or* receiving merit-based aid. This, once again, penalizes low-income students. Instead, students who need the aid should be eligible for all types of financial support.

Fourth, in states that require a specific college grade point average to continue their scholarships, institutions should develop—and receive support for—retention and academic support programs to provide assistance to students who need it. We should not be surprised when students from under-resourced high schools are unable to maintain a B average in a competitive college setting. By not providing the needed assistance we are setting students up to fail and, ultimately, lose their scholarships, thus increasing the likelihood that they will be forced to drop out of college.

Finally, instead of investing so much in merit aid, states should invest more dollars directly into need-based programs where funds are desperately needed. At a minimum, states should increase the level of need-based aid to match existing merit-based aid programs, especially those that are tied to tuition increases. States that do not currently have merit aid programs should resist putting any in place without first considering the recommendations presented here.

On March 7, 2001, the *New York Times* printed a statement that was signed by a group of concerned educators, scholars, and policy analysts (including Gary Orfield and Donald E. Heller, contributors to this report). The statement urged colleges and universities "to recommit to a fundamental statement that will foster a just and efficient allocation of public and private resources in higher education." Citing important evidence, the statement's authors highlighted the need for all forms of financial aid to be focused on low- and moderate-income students and their families. However, despite this evidence, the trend toward programs that overwhelmingly support middle- and upper-income families continues, not only with merit aid but also with other programs such as tuition tax credits, tuition prepayment plans, and tax-sheltered college savings plans. Whatever the advantages of these programs in the politics of tax legislation or partisan budget debates, they are a poor investment in education and opportunity when resources are scarce.

The research presented in this report clearly shows the results of merit aid scholarship programs—many students who were already headed to college get funds even though they may not need them. In the meantime, students who need financial support to attend college have seen slower growth in need-based aid and are often faced with complicated logistics to even be considered a candidate for the needed funds. These studies strongly suggest that merit programs do not expand access to higher education.

Ultimately, we need more equitable financial aid policies. All students should be able to afford to go to college so that the enrollment gaps between rich and poor, and between racial majority and minority youth, can be decreased and even eliminated. In K-12 education, our national policymakers have formally embraced the ideal that "No Child [be] Left Behind," as the recent federal legislation is titled. A similar aspiration should shape financial aid policies because of their indispensable role in providing access to higher education. Resources should be used to develop the skills of the youth of our country, both for their benefit and the benefit of our society. Our financial aid policies need to focus on our students in need of financial support, directing available funds where they are most needed. Current merit-aid programs do not address this need. Without evaluating these programs and making significant changes that are in the best interest of potential students and society alike, we risk exacerbating the very problems publicly funded scholarships were created to address.

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